wood.

Annual Groundwater Monitoring and Corrective Action Report for 2021

Coal Combustion Residuals Rule Groundwater Monitoring System Compliance

Cholla Power Plant
Navajo County, Arizona
Project No. 14-2021-2008

Registered Professional Engineer (Geological)
CERTIFICATE NO.
45746
MAREN B.
HENLEY
DATE SIGNED 1-31-2022
ARIZONA U.S.A.

Prepared for:

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

January 31, 2022

Annual Groundwater Monitoring and Corrective Action Report for 2021

Coal Combustion Residuals Rule Groundwater Monitoring System Compliance
Cholla Power Plant
Navajo County, Arizona
Project No. 14-2021-2008

Prepared for:

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

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100

January 31, 2022

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Acronyms and Abbreviations

§	Section
Annual Report	Annual Groundwater Monitoring and Corrective Action Report
ACM	Assessment of Corrective Measures
ADWR	Arizona Department of Water Resources
AMEC	AMEC Environment & Infrastructure, Inc.
amsl	above mean sea level
APS	Arizona Public Service Company
ASD	Alternative Source Demonstration
BAM	Bottom Ash Monofill
BAP	Bottom Ash Pond
BTV(s)	Background Threshold Value(s)
CCR	coal combustion residuals
CCR units	CCR landfills and surface impoundments
CFR	Code of Federal Regulations
Cholla	Cholla Power Plant
CSM	Conceptual Site Model
FAP	Fly Ash Pond
ft	foot, feet
GWPS(s)	Groundwater Protection Standard(s)
I-40	Interstate 40
MCL	Maximum Contaminant Level
mg/L	milligrams per liter
SAP	Sampling and Analysis Plan
SEDI	Sedimentation Pond
Site	Cholla Power Plant
SSI(s)	statistically significant increase(s)
SSL(s)	statistically significant level(s)
TDS	total dissolved solids
TestAmerica	Eurofins TestAmerica Laboratories, Inc.
USEPA	United States Environmental Protection Agency
Wood	Wood Environment & Infrastructure Solutions, Inc.

GROUNDWATER MONITORING AND CORRECTIVE ACTION PROGRAM OVERVIEW				
Facility Name:	Arizona Public Service Cholla Power Plant		Annual Report Date:	1/31/2022
Location:	Navajo County, Arizona		Reporting Period:	1/1/2021 – 12/31/2021
Groundwater Monitoring Program Status				
CCR Unit	Status at Beginning of Reporting Period	Status at End of Reporting Period	Date(s) of Any Program Transitions	Comments
Fly Ash Pond (FAP)	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Bottom Ash Pond (BAP)	Assessment Monitoring	Assessment Monitoring	2/12/2018	Progressing Activities Supporting Remedy Selection
Sedimentation Pond (SEDI)	Assessment Monitoring	Assessment Monitoring	5/16/2018	-
Bottom Ash Monofill (BAM)	Detection Monitoring	Detection Monitoring	N/A	-
Groundwater Monitoring Statistical Analysis Summary				
CCR Unit	Appendix III Constituent(s) with SSIs over Background	Monitoring Wells where SSIs over Background have been Observed‡	Appendix IV Constituent(s) Present at SSL(s) above GWPSs	Monitoring Wells where SSLs above GWPSs have been Observed‡
Fly Ash Pond (FAP)	B, Ca, Cl, F, pH	M-50A, M-51A, W-123	As, Co*, F, Li, Mo,	M-50A, M-51A, W-123
Bottom Ash Pond (BAP)	B, Ca, F, pH, SO_4, TDS	M-52A, M-53A, W-305, W-306, W-314	Co, Li*	M-52A, M-53A, W-305, W-306, W-314
Sedimentation Pond (SEDI)	B, pH, SO_4	M-56A, M-57A	None	None
Bottom Ash Monofill (BAM)	None	None	None	None
Corrective Action Summary				
CCR Unit	Dates when the ACM was Initiated and Completed	Date of Public Meeting Discussing the ACM	Date when Remedy was Selected	Dates when Remedy was Initiated and Completed
Fly Ash Pond (FAP)	2/13/2019; 6/14/2019	N/A	N/A	N/A
Bottom Ash Pond (BAP)	2/13/2019; 6/14/2019	N/A	N/A	N/A
Sedimentation Pond (SEDI)	N/A	N/A	N/A	N/A
Bottom Ash Monofill (BAM)	N/A	N/A	N/A	N/A

Abbreviations:

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

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

1.0 Introduction

This Annual Groundwater Monitoring and Corrective Action Report for 2021 (Annual Report) was prepared on behalf of Arizona Public Service Company (APS) by Wood Environment & Infrastructure Solutions, Inc. (Wood) for the Cholla Power Plant (Cholla or the Site) located in Navajo County, Arizona. The Annual Report summarizes groundwater monitoring and corrective action data collected to support compliance with coal combustion residuals (CCR) groundwater monitoring and corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257 (herein referred to as the CCR Rule) (Federal Register, 2020).

The CCR Rule became effective on October 19, 2015 and established standards for the disposal of CCR in landfills and surface impoundments (CCR units). In particular, the CCR Rule set forth groundwater monitoring and corrective action requirements for CCR units. The CCR Rule includes the requirement that an "annual groundwater monitoring and corrective action report" be prepared by January 31 for the preceding calendar year (the reporting period). This Annual Report prepared for the 2021 calendar year is intended to document the status of the groundwater monitoring and corrective action programs for each CCR unit, summarize key actions completed, and forecast key activities for 2022. APS additionally considers this report to meet the semiannual reporting requirement of 40 CFR §257.97(a) for selecting and designing remedies pursuant to the CCR Rule during the last half of 2021.

The remainder of this section (Section 1.0) provides a summary description of the power generating facility, the CCR units present at the facility, and the facility's environmental setting which forms the basis for assessment of underlying groundwater conditions. Section 2.0 presents key groundwater monitoring and corrective action activities performed during the reporting period. Sections 3.0 and 4.0 summarize in further detail the activities performed for the groundwater monitoring and corrective action programs respectively during the reporting period. Key activities identified for the upcoming year are presented in Section 5.0. Section 6.0 presents report references.

1.1 Site Background

1.1.1 Facility and CCR Unit Description

Facility Description. Cholla is a coal-fired power plant that had two electric generating units (Units 1 and 3) in operation during 2021. Units 1 and 3 with a combined nameplate capacity of 425.9 megawatts are owned and operated by APS. Unit 4 was retired on December 24, 2020. Coal burned at the plant was previously sourced from the McKinley Mine in New Mexico. When the McKinley Mine closed in 2009, the source of coal switched to the Lee Ranch and El Segundo mines near Grants, New Mexico.

Facility Location. The plant and associated infrastructure are located on land owned/leased by APS adjacent to Interstate 40 (I-40) between the City of Winslow and the City of Holbrook in Navajo County, Arizona (Figure 1-1). The plant sits next to Cholla Reservoir, a cooling pond for Unit 1 and water storage reservoir for the plant that was originally constructed in the early 1900s by the Joseph City Irrigation Company (Shilling, 2005) but was more recently configured in its current location and design by APS in 1961. Cholla Reservoir receives deliveries of groundwater pumped from the nearby Cholla Well Field extracting from the Coconino Sandstone Aquifer. The typical water surface elevation of Cholla Reservoir is 5,022 feet (ft) above mean sea level (amsl).

CCR Unit Description. Plant infrastructure includes four single CCR units referred to as the Fly Ash Pond (FAP), Bottom Ash Pond (BAP), Bottom Ash Monofill (BAM), and Sedimentation Pond (SEDI). All the CCR units except the SEDI are located north of I-40 (Figure 1-2). The SEDI was the first of the CCR units placed into service in 1976. The FAP and BAP dams were completed in 1978, and the BAM came into operation in the late 1990s. Table 1-1 summarizes the location, function, operation, size/construction, and history of each unit. The boundaries of CCR units depicted in Figure 1-2 are based on available historical plans for the units.

1.1.2 Environmental Setting

Unless otherwise noted, the following information is abstracted from Montgomery & Associates (2011), Montgomery & Associates (2017), and AMEC Environment & Infrastructure, Inc. (2012).

Climate. The plant is located in an arid climate within the Little Colorado River Basin. The area receives an average of 6 to 12 inches of precipitation annually. The evaporation rate exceeds the rate of precipitation by an order of magnitude.

Topography. Cholla is located at an average elevation of approximately 5,025 ft amsl in the Colorado Plateau physiographic province of northeastern Arizona. This area is characterized by canyons, high elevations, and narrow, widely spaced riverbeds. The topography of the plant area is characterized by rolling terrain, open vistas, and incised drainages/arroyos. In the vicinity of the plant, the ground surface gently slopes towards the Little Colorado River to the south at approximately 60 ft per mile; however, surface drainage immediately near Cholla Reservoir flows towards the reservoir. About two miles north and south of the plant, the ground surface rises out of the alluvial floodplain to an elevation of 5,100 to 5,200 ft amsl.

Surface Water Hydrology. The plant is located north of the Little Colorado River within the Middle Little Colorado watershed. The Little Colorado River is a meandering, perennial stream with intermittent reaches in a large alluvial floodplain.

Site Geology. The Colorado Plateau, on which the plant is located, is typified by horizontal layered sequences of sedimentary rock, primarily sandstones, siltstones, and claystones. At the plant and nearby CCR units, the uppermost geologic units that are expected to influence groundwater flow and contribute to variations in naturally occurring constituent concentrations across the Site are as follows (in descending order):

- Little Colorado River, Tanner Wash, and other wash Alluviums: These quaternary surface alluviums overlie bedrock formations in localized areas at Cholla and surrounding CCR units. The alluviums are unconsolidated, heterogeneous, and consist of clay, silt, sand, and gravel. In general, the Tanner Wash Alluvium (near the BAP) and other wash Alluvium (mostly under the FAP) are finer grained than the Little Colorado River Alluvium. The alluviums range in thickness from non-existent to approximately 200 ft, and in general are thickest underneath the plant and Cholla Reservoir. Around the CCR units, the alluviums range from approximately 50 ft thick in the vicinity of the FAP Dam to 100 ft thick in the vicinity of the southern BAP Dam.
- Moenkopi Formation: The Moenkopi Formation is the uppermost geologic unit beneath the plant and CCR units and is present at land surface in areas where the alluvium is non-existent. The thickness of the Moenkopi Formation near the plant ranges from non-existent to over 300 ft. Where it is sufficiently thick, the Moenkopi Formation acts as an aquitard between the shallow alluvial aquifer and the underlying Coconino Sandstone Aquifer. The Moenkopi Formation consists of three members, described below:
  - Holbrook Member: this is a relatively permeable, well-consolidated sandstone. The Holbrook Member is the uppermost member of the Moenkopi Formation and is not known to be present in the subsurface in the vicinity of the plant.
  - Moqui Member: this is the primary confining unit within the Moenkopi Formation and consists of maroon and greenish mudstone with abundant gypsum. The Moqui Member is up to approximately 250 to 300 ft thick near the plant.

- Wupatki Member: this is the lowest member of the Moenkopi Formation and is approximately 30 to 50 ft thick. The Wupatki Formation is comprised of relatively permeable sandstone and is in hydraulic connection with the underlying Coconino Sandstone.

- Coconino Sandstone: The Permian-age Coconino Sandstone is the principal lithologic unit of the C-aquifer, a regionally important aquifer for water supply. It is composed of very fine- to fine-grained sandstone with variable permeability depending on the degree of fracturing and cementation. The unit is approximately 375 to 400 ft thick in the vicinity of the plant.
- Schnebly Hill Formation: The Schnebly Hill Formation is a very fine-grained, reddish sandstone that is about 300 to 350 ft thick near the plant. It is part of the C-aquifer, but its hydraulic conductivity is about 10 to 28 percent that of the Coconino Sandstone.
- Supai Formation: The Pennsylvanian to Lower Permian Supai Formation underlies the Coconino Sandstone. It has minimal impact on the surface operations of Cholla, other than containing an approximately 600-ft thick deposit of halite and anhydrite in the Cholla well field area that impacts groundwater quality both regionally and in the vicinity of the plant.

Applicable Hydrostratigraphy. Two hydrostratigraphic units are conceptualized beneath the plant and associated CCR units. These units form the basis for the hydrogeologic Conceptual Site Model (CSM) developed by Montgomery & Associates (2011) and (2017) for the purpose of evaluating compliance wells for the CCR Groundwater Monitoring System.

The first hydrogeologic unit, the Alluvial Aquifer (consisting of the Little Colorado River, Tanner Wash, and other wash Alluviums), is present beneath the plant area, Cholla Reservoir, and the Tanner Wash and Little Colorado River drainage channels adjacent to the BAP and FAP, respectively. The alluvial aquifer in this area receives recharge from the Little Colorado River, Tanner Wash, other contributing drainage channels and any leakage through anthropogenic features such as the reservoir and the nearby Joseph City Canal. The alluvial aquifer is not used as a drinking water supply but does support a riparian habitat along natural surface water channels. Depth to water in the alluvial aquifer ranges from several ft to several tens of ft below land surface in the Cholla area, varying spatially based on proximity to recharge sources and topography, and seasonally based on rainfall-runoff patterns. Where present, groundwater flows generally in the downstream direction of the drainages under which it is present, that is, east to west in the Little Colorado River alluvium and north to south in the Tanner Wash alluvium. Groundwater flow in the Little Colorado River alluvium is also influenced by deeper paleochannels that may not coincide with the present river channel.

The second hydrogeologic unit is the C-aquifer, which consists of the Coconino Sandstone and Schnebly Hill Formation in the vicinity of the plant. Groundwater in this aquifer is under confined conditions in areas north of the Little Colorado River where the Moqui member of the Moenkopi Formation (Moqui) acts as a confining bed. Groundwater movement in the C-aquifer is generally to the north. However, the Cholla well field (southwest of the plant) has created a cone of depression that has made the localized groundwater flow in a westerly direction in that area. Near the FAP, the inferred flow of groundwater in the C-aquifer is to the west or northwest, possibly due to the broad, northwest-trending anticline that extends from the vicinity of the FAP to near Joseph City.

The alluvial aquifer and the C-aquifer are separated by the Moenkopi Formation, a regional aquitard that creates a barrier in some areas between the two aquifers in the vicinity of Cholla where the unit is sufficiently thick. In areas where the C-aquifer in the Coconino Sandstone is confined (primarily north of the Little Colorado River), the Wupatki member of the Moenkopi (Wupatki) has been observed to be water-bearing. However, the Moqui, which ranges in thickness from non-existent to 300 ft underneath and generally south of the plant and Cholla Reservoir, prevents hydraulic connection between the alluvial aquifer and the C-aquifer (where it is present) and is effectively bedrock when considering water quality conditions and groundwater movement in a significant portion of the alluvial aquifer. Recent investigations indicate localized saturation occurs in the uppermost layer of the Moqui downgradient of the BAP and FAP, principally at the base of historical drainage channels where the unit is weathered or where penetrations from monitoring well installation activities have fractured the mudstone of the Moqui and allowed overlying alluvial groundwater to infiltrate into the unit.

Uppermost Aquifer by CCR Unit. The CCR Rule requires that the uppermost aquifer underlying each CCR unit be monitored to evaluate potential impacts from the unit. At Cholla, the uppermost aquifer by unit is as follows:

- FAP (other wash and Little Colorado River Alluvium): The FAP is constructed primarily on the relatively impermeable Moqui member of the Moenkopi Formation; however, a relatively thin layer of alluvial sediments underlie the FAP (particularly in the vicinity of the dam) and is in communication with alluvium downgradient of the FAP. The FAP dam has a clay core that extends through the alluvium to Moqui bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In the middle of the dam where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended approximately one to two feet into bedrock. Groundwater at the toe of the FAP dam flows west-southwest primarily through shallow alluvial sediments (which are fairly fine grained) and then merges with the Little Colorado River Alluvium where the predominant direction of groundwater flow is to the west. Localized saturation also occurs in the weathered, uppermost portion of the Moqui near the FAP dam and downgradient of the FAP, near the Hunt seep.
- BAP (Tanner Wash Alluvium): The BAP is located in the Tanner Wash drainage area. The northern and western abutments of the BAP dam are constructed on the Moenkopi Formation, whereas the length of the southern portion of the dam is constructed predominantly on alluvial material. The BAP dams have a clay core that extend through the alluvium to bedrock where the alluvium was less than 20 ft thick at the time of dam construction. In regions where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. However, due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 10 to 20-ft thick layer of alluvium below the base of the cutoff wall in this region (at an elevation of 4,980 ft amsl). Groundwater near the BAP flows south-southwest primarily through the Tanner Wash Alluvium to its confluence with the Little Colorado River Alluvium. Near the southern BAP dam, groundwater flows within the weathered, uppermost portion of the Moqui.
- BAM (Coconino Sandstone): The BAM is a CCR landfill constructed in the Tanner Wash watershed. It is constructed on the Moqui member of the Moenkopi Formation where no saturated alluvium is present; water levels from nearby wells indicate that the Moenkopi is unsaturated beneath the BAM. Therefore, the uppermost hydrogeologic unit at the BAM is the Coconino Sandstone Aquifer which exists under confined conditions more than 300 ft below ground surface (bgs) in the vicinity of the BAM. Groundwater in the Coconino Aquifer beneath the BAM flows to the north-northwest.
- SEDI (Little Colorado River Alluvium): The SEDI is constructed on the Little Colorado River Alluvium. Groundwater near the SEDI flows parallel to the direction of Little Colorado River surface flows, approximately to the southwest.

1.2 CCR Groundwater Monitoring System

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

Installation of these networks is summarized in the *Cholla Power Plant Coal Combustion Residuals Program – Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks* (CCR Groundwater Monitoring System Certification Report) and is identified as compliant with 40 CFR §257.91(a) through (g) (Montgomery & Associates, 2017). Per the CCR Rule, site monitoring systems are required to evaluate groundwater quality that is representative of background (i.e., groundwater that has not been affected by leakage from a CCR unit) and groundwater passing the downgradient boundary of each CCR unit in the uppermost water-bearing hydrostratigraphic unit underlying the CCR unit.

1.2.1 Monitoring System Description

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

Per the CCR Groundwater Monitoring System Certification Report, the following monitoring wells are designated as "background monitoring wells" for the respective geologic and hydrostratigraphic conditions underlying Cholla (Montgomery & Associates, 2017):

- Background Wells for the FAP and the BAP (Little Colorado River, Tanner Wash, and other wash Alluvium): The upgradient boundary of the FAP rests on a thick section of the Moenkopi Formation; there is no saturated alluvium present in the area upgradient from the FAP boundary. Therefore, background well M-64A was installed west of the plant in the Little Colorado River floodplain to serve as a background well for the FAP. The BAP, in the Tanner Wash alluvium, discharges to and is hydraulically connected to the Little Colorado River alluvium. Because hydrogeologic conditions at the BAP prevented installation of an upgradient background well (as they did at the FAP), M-64A also serves as the background well for the BAP. Travel time calculations performed for the CCR Groundwater Monitoring System Certification Report (Montgomery & Associates, 2017) indicated that M-64A is located far enough downgradient from the FAP and the BAP to represent unimpacted groundwater; however, it is notable that selection of this background well location is not ideal and has the potential to promote spatial heterogeneity issues in statistical data analysis.
- Background Wells for the SEDI (Little Colorado River Alluvium): The groundwater flow direction in the vicinity of the SEDI is to the west-southwest. Background well M-62A is installed in the alluvium on the east (upgradient) side of the SEDI.
- Background Wells for the BAM (Coconino Sandstone): The groundwater flow direction in the Coconino Sandstone Aquifer in the vicinity of the BAM is to the north-northwest. Background well M-54 is installed in the Coconino Sandstone on the southeast (upgradient) side of the BAM.

Due to the natural heterogeneity of the geologic and hydrogeologic conditions underlying Cholla, background constituent concentrations are expected to be spatially heterogeneous (varying) across the Site. The Site is also expected to exhibit both spatial and temporal heterogeneity attributable to local climatic regimes, potential leakage from Cholla Reservoir, and potential operational activity at the Site. The groundwater monitoring well networks, respective to sampling coverage and frequency, appear to adequately represent this spatial and temporal heterogeneity, pending further review.

Downgradient CCR Monitoring Wells. A total of 17 CCR compliance wells are in place at the Site to monitor the downgradient groundwater conditions of each CCR unit (Table 1-2). Fourteen of these monitoring wells are installed in either the Little Colorado River or Tanner Wash Alluvium. Two of these monitoring wells, W-123 and M-52A, were initially identified as alluvial monitoring wells but designations were updated to be partially completed in the Moqui based on site investigations conducted in 2019 and 2020. As discussed below and in Sections 1.2.2 and 4.3.1, W-123 was abandoned and replaced with W-123R in May 2021 with as shallow a screened section as possible to predominantly intercept groundwater in the alluvium, but still partially intercepts the uppermost highly-weathered and saturated Moqui. W-123 well abandonment and replacement activities are documented in Appendix A. The three remaining downgradient wells are completed in the Coconino Sandstone. The grouping of monitoring wells, spatial density, and coverage of the monitoring well network are assumed representative and acceptable until proven otherwise (Figure 1-2). These wells are grouped by their respective CCR unit, as described below:

- FAP Downgradient Wells (Alluvium and Moenkopi Moqui): The groundwater flow direction in the alluvium downgradient of the FAP dam (i.e., the waste boundary) is west-southwest. The alluvial thickness in this area is limited; in some places it may be up to 50 ft thick but in others it is non-existent. On this basis, three downgradient wells were initially designated for the FAP boundary, W-123, M-50A and M-51A. A cone penetrometer test investigation conducted downgradient of the FAP dam during 2020 suggests that the now-abandoned W-123 was substantially completed in the Moqui (Wood, 2021a). While drilling replacement well W-123R in May 2021, a highly weathered and saturated Moqui layer was encountered from 14.5 ft bgs to 15.5 ft at the top of the unit. To ensure that W-123R intercepts the alluvial aquifer and the saturated Moqui and that it complies with Arizona Department of Water Resources (ADWR) surface completion requirements, the well was constructed with a screened interval of 8 ft bgs to 18 ft bgs. Abandonment and replacement of W-123 is further discussed in Section 1.2.2. In 2018, three additional wells were installed to evaluate groundwater conditions downgradient of the FAP. These wells are identified as MW-65A, MW-66A, and MW-67A. All other compliance wells downgradient of the FAP are screened within the Little Colorado River Alluvium.
- SEDI Downgradient Wells (Little Colorado River Alluvium): The groundwater flow direction in the alluvium underlying the SEDI is to the west-southwest. Three downgradient wells were designated for the SEDI: M-56A, M-57A, and M-58A; these are screened within the Little Colorado River Alluvium.
- BAP Downgradient Wells (Tanner Wash Alluvium and Moenkopi Moqui): The groundwater flow direction in the alluvium underlying the BAP is generally to the southwest along Tanner Wash; however, there is a radial component of groundwater flow toward the east-southeast due to hydraulic head from the BAP. As of the end of the reporting period, thirteen downgradient monitoring wells are designated for the BAP: M-52A, M-53A, W-305, W-306, W-314, MW-71A, MW-72M, MW-73A, MW-74M, MW-76A, MW-77A, MW-78A, and MW-79A. M-53A, W-305, W-306, and W-314 are identified as screened in the Tanner Wash Alluvium based on well log information, but a drilling investigation conducted in 2019 indicated that M-52A is partially completed in the weathered upper portion of the Moqui (Wood, 2020a). MW-71A, MW-72M, MW-73A, MW-74M, MW-76A, MW-77A, MW-78A, and MW-79A were installed during 2021 (Section 1.2.2). Based on well log information, well identifications ending with A designations are screened in the Tanner Wash Alluvium and those ending with M designations are screened in the saturated upper layer of the Moqui.
- BAM Downgradient Wells (Coconino Sandstone): The uppermost hydrogeologic unit underlying the BAM is the C-aquifer in the Coconino Sandstone, which flows towards the north-northwest in this vicinity. Three downgradient monitoring wells were installed to monitor the quality of groundwater

passing the waste boundary of the BAM. These wells are named M-59, M-60, and M-61, and are completed in the Coconino Sandstone.

Supplementary Site Monitoring Wells. There are many groundwater monitoring wells at the Site that are not part of the CCR groundwater monitoring system but may provide useful information to the program, particularly in the region downgradient of the FAP and BAP. Table 1-2 and Figure 1-2 identify these wells.

1.2.2 Implemented Changes to Monitoring System

During the reporting period several new and replacement monitoring wells were installed at the SEDI, FAP and BAP. All new wells are included in Table 1-2 and shown on Figure 1-2. The new wells are summarized by unit as follows;

- At the SEDI, downgradient supplementary monitoring well CR-1 was abandoned and replaced with CR-1R. The basis for abandonment and replacement, documentation of all associated activities, and any recommendations are included in the *Well Completion Report Abandonment and Replacement Program* included as Appendix A.
- At the FAP, downgradient monitoring wells W-123, W-126 and piezometers F-91, F-92, F-111 were abandoned and replaced with W-123R, W-126R, F-91R, F-92R, and F-111R respectively. Extraction wells GSX-1 and GSX-2 located at the southern toe of the FAP were also abandoned and replaced with one new extraction well, GSX-1R. W-123R and GSX-1R are discussed further in Section 4.3.1. Appendix A further details justification for well replacement and all associated well completion activities of the new FAP wells.
- At the BAP, supplementary monitoring well W-307 was abandoned and replaced with W-307R (Appendix A). Additionally, eight new downgradient monitoring wells (MW-71A, MW-72M, MW-73A, MW-74M, MW-76A, MW-77A, MW-78A, and MW-79A) were installed to further define groundwater conditions at the BAP. Although not identified as monitoring wells, five extraction wells were also installed at the southern toe of the BAP (BSX-01, BSX-02, BSX-03) and downgradient of the TWX Area System (BSX-04 and BSX-05) to provide additional groundwater quality information and support pre-design activities in the vicinity. All new and replacement BAP wells are discussed further in Section 4.3.1.

2.0 Summary Of Key Actions Completed

A summary of key actions conducted at the Site in 2021 to address CCR Rule requirements is as follows:

- *Documentation of Groundwater Monitoring Activities Conducted in 2020* - 40 CFR §257.90(e) requires that an Annual Groundwater Monitoring and Corrective Action Report for applicable sites be prepared for existing CCR units annually on January 31 of the following year. During the reporting period, the *Annual Groundwater Monitoring and Corrective Action Report for 2020* was prepared (Wood, 2021a), placed in the facility's operating record, and posted to APS's CCR information webpage in accordance with 40 CFR §257.105(h)(1) and 40 CFR §257.106(h)(1).
- *Continuation of the Detection Monitoring Program at the BAM* – 40 CFR §257.94(b) requires the continuation of detection monitoring at a semiannual frequency for Appendix III constituents at CCR units where statistical analysis of Appendix III constituent data do not indicate a statistically significant increase (SSI) over background. Section 3.2 summarizes detection monitoring activities conducted during the reporting period.
- *Statistical Analyses of Appendix III Constituents at the BAM* – For CCR units in the detection monitoring program, 40 CFR §257.93(h) requires the evaluation of groundwater monitoring data for SSIs over

background of Appendix III constituents no later than 90 days after completing the associated sampling and analysis. During the reporting period, two statistical analyses were performed using updated analytical data for Appendix III constituents at BAM monitoring wells. The statistical analyses are summarized in Section 3.3.1.

- *Continuation of the Assessment Monitoring Program at the SEDI* - 40 CFR §257.95(b) and (d)(1) require the continuation of assessment monitoring annually for Appendix IV constituents and semiannually for Appendix III and detected Appendix IV constituents at CCR units where statistical analysis of Appendix III constituents indicate an SSI over background. Section 3.2 summarizes assessment monitoring activities conducted during the reporting period.
- *Statistical Analyses of Appendix IV Constituents at the SEDI* – For CCR units in the assessment monitoring program, 40 CFR §257.93(h) requires the statistical evaluation of groundwater monitoring data for exceedances of Appendix IV constituents no later than 90 days after completing the associated sampling and analysis. During the reporting period, two statistical analyses were performed using updated Appendix IV constituent data collected from SEDI monitoring wells. The statistical analyses are summarized in Section 3.3.2.
- *Characterization of the Nature and Extent of Releases from the FAP and the BAP* – 40 CFR §257.95(g)(1) requires characterization of the nature and extent of releases from CCR units where one or more Appendix IV constituents exceed GWPSs at statistically significant levels (SSLs). Section 4.2 summarizes characterization activities performed during the reporting period to address this requirement.
- *Pre-Design Studies Necessary for Remedy Selection* – During the reporting period, several pre-design studies necessary to support the selection and design of remedies for the FAP and the BAP were performed. The pre-design studies are summarized in Section 4.3.1.
- *Preparation of a Semiannual Progress Report on Remedy Selection for the FAP and the BAP* – 40 CFR §257.97(a) requires the preparation of semiannual reports which document the progress of remedy selection for CCR units that have impacted groundwater. During July of the 2021 reporting period, the fifth semiannual report to fulfill this requirement was prepared (Section 4.5).
- *Completion of SEDI Closure* – During the reporting period, APS conducted activities supporting closure of the SEDI including decontamination, demolition, and removal of concrete structures within the unit, excavation of residual CCR from the SEDI footprint, and backfilling/compacting of the excavation with clean soil. SEDI closure activities are further discussed in Section 4.6.1.

3.0 Groundwater Monitoring Program

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

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

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

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

3.1 Program Status

Based on Appendix III and Appendix IV concentrations and statistical analyses completed as of the end of the 2021 reporting period for the BAM and SEDI, these units are currently in the detection and assessment groundwater monitoring programs respectively. The FAP and BAP are in corrective action and continue to be monitored as part of the assessment groundwater monitoring program.

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

3.1.1 Problems Encountered and Resolutions to Problems

Problems encountered during the reporting period and associated resolutions include:

- Possible Monitoring Equipment Malfunction – During the October 2021 semiannual groundwater monitoring event, the Site-owned YSI Pro Plus Multiparameter Instrument was unable to be powered on. After unsuccessful trouble shooting of the Site-owned YSI, a rental YSI Multiparameter Instrument was used as a replacement but the dissolved oxygen (DO) probe appeared to be malfunctioning and presenting inaccurate DO measurements despite regular calibration. DO measurements were still carefully considered in establishing stabilized flow for sampling but not used to evaluate water quality. APS has sent the out of order Site-owned YSI Pro Plus meter to the manufacturer for repairs to ensure accurate field parameter readings during future groundwater sampling.
- Total Dissolved Solids Analytical Method Holding Time Exceedance – During the October 2021 semiannual groundwater monitoring event, samples collected from BAM monitoring wells M-54, M-59, M-60, and M-61 exceeded the seven-day holding time for laboratory analysis of total dissolved solids (TDS). All laboratory results for these samples were validated, qualified as estimated (J qualifier, as shown in Appendix C), and assessed to be acceptable for use in data evaluation. However, as a further precaution, TDS was re-sampled from M-54, M-59, M-60, and M-61 due to it being one of the Appendix III constituents used to determine whether the BAM continues to be within detection monitoring. Results of the BAM TDS re-sampling event are similar to the initial October TDS sample results. Analytical laboratory reports, the *2021 Data Validation Report*, and groundwater quality data results are included in Appendix B, C and D, respectively. To ensure timely sample delivery to laboratories for analysis and avoid holding time issues in the future, APS has coordinated an expedited delivery service directly from the Site to laboratory locations.

- As noted in the *2021 Data Validation Report* (Appendix C) and Section 3.2.4 below, a considerable amount of the groundwater sampling data assessed during the reporting period required qualifiers. The data were validated; however, it has been recommended to evaluate other laboratories and consider a laboratory transition plan in 2022 (Section 5.0).

3.1.2 Groundwater Monitoring Program Transitions

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

3.1.3 Alternative Source Demonstrations

In 2019 an alternative source demonstration (ASD) was conducted in response to exceedance of the lithium GWPS at the BAP (Wood, 2020a). The findings of the ASD suggest that lithium concentrations vary due to spatial heterogeneity in groundwater conditions beneath and around the BAP; therefore, interwell statistical comparisons to establish a GWPS are inadequate. During the reporting period an Exploratory Data Analysis (EDA) to support calculating preliminary intrawell GWPS values for compliance wells M-52A, M-53A, M-55A, W-305, W-306, and W-314 was completed. Appendix E presents the Technical Memorandum for this statistical analysis.

No ASDs or further updates to existing ASDs were performed during the reporting period.

3.2 Monitoring Data Collected

Two CCR groundwater monitoring events were conducted at Cholla during the reporting period in accordance with the Sampling and Analysis Plan (SAP) developed for the Site (Montgomery & Associates, 2015). The groundwater monitoring events took place during April and October 2021. The SAP documents the methods and procedures used to conduct groundwater sampling, analyze collected samples for CCR constituents, and assess associated analytical data for quality assurance purposes. It has also been recommended that the SAP be updated during the 2022 reporting period (Section 5.0). The following sections summarize results of the monitoring activities conducted in 2021. Table 3-2 identifies when monitoring occurred and which units were monitored. During the reporting period, detection monitoring included evaluation of collected samples for Appendix III constituents on a semiannual basis (40 CFR §257.94[b]). At a minimum, assessment monitoring included evaluation of collected samples for all Appendix IV constituents on an annual basis (40 CFR §257.95[b]) and detected Appendix IV constituents and all Appendix III constituents on a semiannual basis (40 CFR §257.95[d][1]).

Supplementary water samples were also collected as part of pre-design studies and new well installation performed during the reporting period which include:

- Groundwater samples collected during development of new and replacement wells at the SEDI, BAP and FAP as part of development criteria (Section 1.2.2 and 4.3.1);
- Groundwater samples collected at new and replacement wells at the BAP, FAP, and SEDI to help establish a baseline for water quality (Section 1.2.2 and 4.3.1);
- Groundwater samples collected during aquifer tests at new supplementary BAP and FAP wells (Section 4.3.1);
- Surface water samples collected from the BAP and FAP units.

The additional samples were collected and analyzed using industry-standard procedures and in accordance with the SAP.

3.2.1 Water Level Monitoring

Figures 3-1 and 3-2 present potentiometric surface maps created using water-level measurements collected just prior to the April and October 2021 groundwater monitoring events. Groundwater elevations collected from monitoring wells at each CCR unit are evaluated and plotted independently based on the CSM. The estimated flow directions inferred from the groundwater elevation data are depicted on the figures. As indicated, groundwater in the alluvium appears to flow south to southwest from the FAP and the drainage area associated with Tanner Wash (where the BAP is located), towards the Little Colorado River, where groundwater generally flows to the west (consistent with surface water flows). Groundwater in the C-aquifer underlying the BAM flows to the north.

Appendix F presents hydrographs of groundwater elevations measured at CCR compliance wells over time. The groundwater elevations measured during the reporting period are relatively stable and consistent with historical observations. In general, seasonal fluctuations are apparent from the water-level data, with higher water levels occurring in the spring (e.g., March through May) and lower water levels occurring in late-summer through fall (e.g., August through October).

Notable observations for groundwater conditions at each CCR unit are discussed below.

- FAP: There is a fairly steep hydraulic gradient at the edges of the FAP dam where no cutoff wall is present. Farther downgradient, groundwater elevations in M-46A, MW-67A, and MW-63A indicate that the hydraulic gradient begins to flatten with increased distance from the FAP. Well W-127 was noted to be dry in April and October 2021.
- BAP: Groundwater elevations at M-53A (located at the western abutment of the southern BAP dam) and W-314 (located downgradient of the eastern side of the BAP dam) are approximately 10 ft higher than groundwater elevations in wells located towards the central portion of the southern BAP dam (i.e. M-52A, W-305, and W-306), indicating a steep hydraulic gradient near the edge of the BAP. A decreasing trend in water levels is occurring at W-314 relative to the other BAP wells. New well MW-76A was dry upon drilling and installation in May 2021 and still noted to be dry during October 2021.
- BAM: Groundwater elevations in the C-aquifer monitoring wells continue to indicate a slightly increasing trend over time.
- SEDI: The hydraulic gradient beneath the SEDI is relatively flat in comparison to the FAP and the BAP, and a slightly increasing trend in groundwater elevations is apparent from the water-level data.

3.2.2 Groundwater Flow Rate Estimation

The CCR Rule requires that groundwater flow rates beneath CCR units be estimated during each monitoring event. The water levels measured in April and October 2021 (Figures 3-1 and 3-2) were used to calculate the direction and magnitude of the hydraulic gradient in the vicinity of each unit using a spreadsheet tool available on the United States Environmental Protection Agency (USEPA) website (USEPA, 2014). Darcy's Equation for flow through porous media was then used with Site data (where available) and/or literature-based hydraulic conductivity and effective porosity values for hydrogeologic units to estimate average linear groundwater flow velocities. Table 3-3 identifies the wells, hydraulic conductivities, and porosities used in the analysis and presents the calculated groundwater flow directions, gradients, and flow velocities.

For the Tanner Wash Alluvium downgradient of the BAP, the hydraulic gradient was stable during the reporting period at 0.015 ft per ft. The direction of groundwater flow from the BAP was south (185 degrees from north), and the corresponding groundwater flow rate for both monitoring events was 0.11 ft per day. The hydraulic conductivity value used in groundwater flow calculations will be reassessed and updated as applicable in 2022 based on further aquifer testing conducted at the BAP.

For the alluvial aquifer downgradient of the FAP, the hydraulic gradient and flow direction were also relatively stable. The hydraulic gradient ranged from 0.020 to 0.021 ft per ft and the direction of groundwater flow was to the southwest towards the Little Colorado River (236 to 241 degrees from north). The corresponding groundwater flow rates for April and October 2021 were 0.65 and 0.61 ft per day, respectively. The hydraulic conductivity value of 3.98 ft per day for the FAP, which was used in the groundwater flow rate calculations, is averaged from the previously utilized FAP hydraulic conductivity (Wood, 2021a Table 3-1) and analyses of aquifer testing conducted at the toe of the FAP up to January 2021 (Appendix G and Wood, 2021a). It should be recognized that this is an averaged hydraulic conductivity value for a spatially heterogeneous aquifer. The average hydraulic conductivity is heavily weighted by the results of the aquifer testing analyses done near the toe of the FAP only and is greater than the previously utilized hydraulic conductivity. Hydraulic conductivity will continue to be reassessed and updated as applicable in 2022 based on further aquifer testing conducted at the FAP.

For the Little Colorado River Alluvium downgradient of the SEDI, the hydraulic gradient was relatively stable. The flow direction, while also relatively stable - varied the most of all the units. The magnitude of the hydraulic gradient ranged from 0.0007 to 0.0008 ft per ft during the reporting period, and the direction of groundwater flow was generally west to southwest towards the Little Colorado River (254 to 261 degrees from north). The corresponding groundwater flow rates were 0.38 to 0.41 ft per day for April and October 2021, respectively.

For the C-Aquifer underlying the BAM, the hydraulic gradient and flow direction were fairly stable during the reporting period. The magnitude of the hydraulic gradient ranged from 0.0085 to 0.0088 ft per ft and the direction of groundwater flow for April and October 2021 was to the north (358 to 359 degrees from north). The corresponding groundwater flow rate for April and October 2021 was 1.8 ft per day.

3.2.3 Sample Collection

Groundwater samples were collected, labeled, preserved, and shipped per the SAP (Montgomery & Associates, 2015). In accordance with 40 CFR §257.93(i), groundwater samples collected for statistical analysis of Appendix III and IV constituents were not field filtered prior to analysis. Pursuant to the SAP, quality control samples (i.e., field duplicates, field blanks and extra sample volume for matrix spike samples) were collected during each groundwater monitoring event. These samples are noted on associated chain-of-custody documentation.

3.2.4 Sample Analysis and Data Validation

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

Table 3-2 identifies the analytes evaluated during each monitoring event and field investigation. Analytes varied based on the monitoring program (i.e., detection vs. assessment monitoring) or field investigation. The SAP identifies Appendix III and Appendix IV constituents with associated analytical methods.

Following receipt of final laboratory reports of analysis, the reports and associated sample data collected during detection and assessment monitoring were evaluated for quality assurance purposes. The scope of the review was a USEPA Stage 2A validation. Appendix C presents the *2021 Data Validation Report* which documents these reviews. There were no notable data validation qualifiers or reason codes added to the 2021 data. There was, however, a considerable increase in the number of data validation qualifiers (particularly 'J' qualifiers) added to results from TestAmerica. There was an increase in the number of groundwater samples collected in 2021, but the increase in the number of data validation qualifiers was not proportional. All data qualifiers and reason codes are included in the *2021 Data Validation Report* (Appendix C).

3.2.5 Sample Results

Appendix D presents the groundwater sampling results for 2021 along with historical groundwater quality data for the Site. The groundwater quality data collected during the reporting period are discussed further in Section 4.2. The sampling coverage and frequency of the groundwater monitoring system is assumed representative and adequate of spatial and temporal heterogeneity until proven otherwise.

3.3 Statistical Analysis of Monitoring Data

Statistical analyses of Appendix III and Appendix IV constituent data were conducted during the reporting period to evaluate whether collected monitoring data indicate Site CCR units have adversely impacted underlying groundwater. These analyses were conducted pursuant to the Statistical Data Analysis Work Plan (SDAWP) developed for the Site (Wood, 2018).

3.3.1 Evaluation of Appendix III Constituent Data

The BAM was the only Site CCR unit that remained in the detection monitoring program as of the end of 2019 and required statistical evaluations of Appendix III constituent data during the reporting period.

A statistical analysis of Appendix III constituent data collected at the BAM through October 2020 was completed in April 2021 (Appendix H). The statistical analysis indicated no SSIs over Appendix III constituent BTVs. An initial exceedance identified in May 2020 for fluoride at CCR wells M-60 and M-61 was declared statistically insignificant based on a 1 of 3 resampling strategy implemented during the October 2020 sampling event. The analysis incorporates updated BTVs, which are presented in Table 3-1.

A statistical analysis of Appendix III constituent data collected at the BAM through July 2021 was completed in October 2021 (Appendix I). In accordance with the SDAWP, APS implemented a 1 of 2 resample strategy to resample CCR well M-60 to address an initial April 2021 exceedance over the TDS BTV. The statistical evaluation determined that the April 2021 M-60 TDS exceedance was statistically insignificant. The analysis also incorporates updated BTVs, which are presented in Table 3-1. As of the end of this reporting period APS continues detection monitoring at the BAM in accordance with 40 CFR §257.95(f).

3.3.2 Evaluation of Appendix IV Constituent Data

The SEDI was the only Site CCR unit that remained in the assessment monitoring program without declared exceedances of GWPSs as of the end of 2019 and required statistical evaluations of collected Appendix IV constituent data during the reporting period.

Two statistical analyses of Appendix IV constituent data collected from SEDI wells through October 2020 and April 2021 (Appendices J and K, respectively) were performed in 2021. Both analyses indicated that no GWPSs were exceeded at SSLs. The analyses also incorporated updated BTVs, which are presented in Table 3-1. On the basis that one or more Appendix III constituents continued to exceed BTVs and the statistical assessment indicated that Appendix IV constituent concentrations did not exceed applicable GWPSs at SSLs, as of the end of this reporting period APS continues assessment monitoring at the SEDI in accordance with 40 CFR §257.95(f).

Although groundwater at the BAP is currently being assessed as part of the corrective action program, to address consistent GWPS exceedances of selenium noted at supplementary wells M-55A and W-309, an updated statistical evaluation is recommended in 2022 to identify further possible constituents of concern (COCs) (Section 5.0). This update will also address statistical assessments supporting future unit closure (Section 5.0). At the FAP, no additional constituents (Section 4.2) routinely exceed their respective GWPS.

4.0 Corrective Action Program

4.1 Program Status

Based on the declaration that one or more Appendix IV constituents are present at SSLs above GWPSs downgradient of the FAP and the BAP, these units are currently in the corrective action program. Notification of exceedances occurred on November 14, 2018 and were documented in the Annual Groundwater Monitoring and Corrective Action Report for 2018 (Wood, 2019a).

Summaries of corrective action program activities performed during the reporting period are presented in the following sections.

4.2 Characterization of Potential Releases from CCR Units

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

Initial efforts to address the requirements of 40 CFR §257.95(g)(1) were documented in the *Hydrogeologic Investigation of the Fly Ash Pond and Bottom Ash Pond* (Wood, 2020b). However, due to the duration required to adequately characterize complex groundwater impacts, work supporting characterization of potential releases from CCR units is ongoing. Activities conducted during the reporting period to address CCR Rule release characterization requirements downgradient of the FAP and BAP include:

- The collection of groundwater quality data from FAP and BAP monitoring wells (Section 3.2);
- Delineation of the nature and extent of releases from the FAP and BAP in the form of plume maps (Figures 4-1 through 4-5).

Findings from the characterization activities are summarized as follows and discussed in the following sections.

- COCs present at concentrations above respective GWPSs in groundwater downgradient of the FAP include arsenic, fluoride, lithium, and molybdenum, with the inferred extent of each constituent depicted on Figures 4-1, 4-2, 4-3, and 4-4 respectively. Fluoride, lithium, and molybdenum all exceed the respective GWPSs in groundwater beneath downgradient properties just beyond the APS property south of the FAP. Surface water samples taken in October 2021 indicate that antimony, arsenic, beryllium, cobalt, fluoride, lithium, molybdenum, selenium and total radium are present in pond water in the FAP at concentrations exceeding the GWPSs (as shown in Appendix D).
- Cobalt is present at concentrations above the GWPS in groundwater downgradient of the BAP, with the inferred extent of cobalt depicted on Figure 4-5. Cobalt is elevated above the GWPS in groundwater beneath downgradient properties. Although the plume has migrated beyond the extent of APS property directly adjacent to the BAP, it is defined by wells located on downgradient APS property. New wells MW-71A through MW-74M, MW-76A through MW-79A, and replacement well W-307R (Section 1.2.2) helped to further refine and update the inferred cobalt plume south of the BAP as shown in Figure 4-5.

Samples collected in both April and October 2021 indicate cobalt concentration in pond water of the BAP is below both the GWPS and concentrations observed in groundwater (as shown in Appendix D).

4.3 Progress on Remedy Selection for the FAP and BAP

In response to GWPS exceedances at the FAP and the BAP and pursuant to 40 CFR §257.96(a), an Assessment of Corrective Measures (ACM) was prepared in 2019 (Wood, 2019b) to evaluate the performance of several combined corrective measures to address groundwater impacts resulting from the FAP and the BAP. Since completion of the ACM, several evaluations and pre-design studies to support the selection and design of remedies for the FAP and the BAP have been conducted (Wood, 2020a and Wood, 2021a).

4.3.1 Corrective Measures Pre-Design Studies

The following are summaries of the evaluations and pre-design studies completed during the 2021 reporting period;

- *Aquifer Testing Downgradient of the FAP* – Four aquifer tests were conducted at wells EW-01 through EW-04 in January 2021. Appendix G presents the Well Completion Report that summarizes the aquifer test activities and analyses. Aquifer properties such as hydraulic conductivity and transmissivity were calculated from the aquifer test data. As noted in Section 3.2.2, the hydraulic conductivity values assessed from the aquifer testing (Appendix G) were greater than the previously utilized value at the FAP (Wood 2021a, Table 3-1). Data from the aquifer testing also suggest that EW-01 through EW-03 are hydraulically connected to one another and several other alluvial wells in the immediate area but not to EW-04 or then-existing well W-123. A response was seen in W-123 only during the EW-04 aquifer testing. In May 2021 W-123 was abandoned along with several other FAP wells, including extraction wells GSX-1 and GSX-2 (Section 1.2.2). The replacement for W-123, W-123R, was drilled approximately 10 ft southeast of its predecessor well. Likewise, the replacement well for GSX-1 and GSX-2, GSX-1R, was drilled approximately 10 ft southeast of GSX-1. In June 2021 aquifer testing was conducted at GSX-1R. As summarized in Appendix A, water level and aquifer testing data suggest that GSX-1R, EW-03, and F-111R are hydraulically connected to one another but not to EW-04 or W-123R. All aquifer testing completed in the alluvial aquifer downgradient of the FAP to date indicates that the aquifer is heterogeneous and exhibits limited connectivity between water bearing zones. As of the end of 2021, GSX-1R is not outfitted with a pump or incorporated into the Geronimo Seepage Intercept System.
- *FAP Seepage Intercept System Inspection and Improvement Design* – An inspection and basic operational testing of the existing FAP seepage intercept system was completed in June 2021. A Technical Memorandum summarizing the inspection is presented in Appendix L.
- *Groundwater Reduction/Oxidation Evaluation at the FAP* – In January 2021 the potential reduction/oxidation (redox) processes in groundwater downgradient of the FAP were evaluated (Wood, 2021b). Data collected during the 2020 reporting period indicate that reduced conditions in groundwater are causing mobilization of arsenic from aquifer sediments into groundwater near FAP well MW-67A. Per recommendation of the evaluation, analysis of redox constituents from three more rounds of groundwater samples should be completed. Redox constituents were collected during the 2021 reporting period during the April and October 2021 sample events. The data collected during 2021 at the FAP further support the previous redox evaluation. The mean concentration of iron at wells upgradient from MW-67A, except for M-46A, are all less than 1.0 milligram per liter (mg/L) for the 2020 and 2021 sampling events. In contrast, the mean concentration of dissolved iron at MW-67A in the 2020 and 2021 samples was 8.03 mg/L. Under oxidizing conditions, very low concentrations of iron are expected as ferric oxyhydroxides are

sparingly soluble at neutral pH. These data still indicate that reducing conditions are present in groundwater in the area of MW-67A, which likely results in the increase in arsenic concentrations observed at this particular well.

- *BAP Seepage System Inspection* – An inspection of the existing BAP seepage system was completed in December 2019 with an additional inspection and basic operational testing occurring in June 2021. A Technical Memorandum summarizing the inspections is presented in Appendix M. The memorandum recommends that the BAP Seepage Intercept Systems be updated and reconfigured to allow the operational assessment of each individual system and component, including adding water level monitoring capacity, elapsed time meters on pumps, and flow meters on piping.
- *Evaluation of Potential Reduction/Oxidation Conditions in Groundwater at the BAP* – In May 2021, the potential redox processes in groundwater downgradient of the BAP were evaluated based on groundwater samples taken throughout the previous 2020 reporting period. Appendix N presents the Technical Memorandum which summarizes this preliminary analysis. The data from 2020 (specifically the results for dissolved and ferrous iron) indicate the presence of reducing conditions in groundwater at wells adjacent to the BAP. As recommended in Appendix N, further evaluation of groundwater redox conditions and analysis of redox constituents from three more rounds of groundwater samples should be completed. Redox constituents were collected during the October 2021 sample event as the first of the three rounds recommended and an evaluation of the results will be incorporated into the relevant BAP pre-design study reports discussed below as applicable.
- *BAP Pre-Design Studies* – During the reporting period, several pre-design studies necessary for the selection and design of remedies for the BAP were conducted. The pre-design studies include the following;
  - *Installation of Wells Downgradient of the BAP* – In May 2021, four new monitoring wells downgradient of the BAP (MW-76A, MW-77A, MW-78A and MW-79A) were installed. The wells will help to further define the nature and extent of elevated cobalt concentrations in the area. Wells BSX-01 through BSX-05 were also installed in May 2021 along the southern dam and downgradient of the TWX Area and are constructed with the ability to convert to future extraction wells. All five BSX wells are not currently outfitted with pumps, but could potentially be included in an extraction well network as part of interim or remedial corrective measures (Section 4.4.2 and 5.0) and may also serve as supplementary monitoring wells. In September 2021, four additional downgradient monitoring wells were installed near the Petroglyph and Tanner Wash Seeps (MW-71A, MW-72M and MW-73A, MW-74M respectively). These wells were installed to further investigate the possibility that reducing conditions in the groundwater found in the Moqui member specifically may be the mechanism for the elevated cobalt observed at the BAP. A Well Completion Report documenting all field and installation activities of the 13 new BAP wells will be completed early in the following reporting period and included in the 2022 GMCAR (Section 5.0). In October 2021 supplementary monitoring well W-307 was abandoned and replaced with monitoring well W-307R. Installed in 1984, samples from W-307 may not have been representative of groundwater conditions in the area. The replacement well, W-307R was installed with a screened interval similar to that of W-307. All installation activities associated with W-307R are also documented in Appendix A.
  - *Aquifer Testing Downgradient of the BAP* – Following installation of the new monitoring and extraction wells at the BAP, in June 2021 aquifer testing was completed at four of the five extraction wells (BSX-01 through BSX-04) and MW-79A. The testing was conducted to further evaluate local aquifer properties and to evaluate the effectiveness of extraction wells

as a containment technology (Section 4.4.2 and 5.0). Select groundwater samples were collected during testing to monitor water quality changes and conditions at the wells. Aquifer test activities and analyses will be presented in the Well Completion Report that documents the new BAP well installation activities mentioned above.

- *Aqueous and Solid Matrix Sampling at the BAP* – During the drilling and development of select new wells at the BAP during the reporting period, both solid matrix sediment samples and groundwater samples were collected. All samples were collected in accordance with the SAP (Montgomery & Associates, 2015) for a suite of analytical tests and bench scale testing to evaluate the effectiveness of potential treatment technologies or monitored natural attenuation to reduce the mobility and mass of cobalt in the groundwater (Section 4.4.2 and 5.0). The samples and analytical results will also serve to better understand the geochemical processes that may be occurring at the BAP and this information will be translated to update the fate and transport phase of the groundwater model. Sampling activities, results, and geochemical evaluations will be presented in a Geochemical Evaluation Report to be completed early next reporting period and included in the 2022 GMCAR (Section 5.0).
- *Geophysical Surveying Upgradient of the BAP* – To characterize background groundwater elevations and hydraulic gradient in order to understand potential impacts BAP operations have had on the local Tanner Wash alluvium aquifer, geophysical surveys were completed in August 2021. One resistivity survey and three seismic refraction surveys were completed at two locations within Tanner Wash several miles upgradient of the BAP. Field activities and analyses of the survey data will be presented in a Geophysical Survey Report to be completed early next reporting period and included in the 2022 GMAR (Section 5.0).

Additional pre-design studies planned for 2022 are discussed in Section 5.0.

4.3.2 Public Meeting

Per 40 CFR §257.96(e), APS will conduct a public meeting with interested and affected parties to present the results of the ACM for the FAP and the BAP at least 30 days prior to selecting remedies for each CCR unit. Although pre-design studies supporting remedy selection were progressed during the reporting period, investigations considered integral to the remedy selection process were ongoing as of the end of 2021.

4.3.3 Remedy Selection Reports for the FAP and BAP

Upon completion of necessary pre-design studies and a public meeting soliciting input on corrective measures assessment, APS will select remedies for the FAP and the BAP that meet the requirements of 40 CFR §257.97(b). Pursuant to 40 CFR §257.97(a) and §257.91(f), a remedy selection report for the FAP and the BAP will be prepared and remedial activities at the FAP and the BAP will begin within 90 days of selecting a remedy for each unit.

4.4 Implementation of Risk Mitigation Plan Supporting Alternative Closure

On November 30, 2020, APS submitted a Demonstration Supporting a Site-Specific Deadline to Initiate Closure for the FAP and the BAP to the USEPA pursuant to 40 CFR §257.103(f)(2). The demonstration included a Risk Mitigation Plan (Wood, 2020c) that identified risk mitigation activities and interim response measures that were to be routinely documented in this GMCAR. The following sections provide these updates.

4.4.1 Risk Mitigation Activities

During the reporting period, weekly inspections of the FAP and BAP seepage collection systems were performed by APS personnel. At the time of these inspections, the area around the collection systems were also inspected for the presence of new seepage. Weekly inspections will continue and expansion of these inspections to include areas located around the downgradient perimeter of the FAP and BAP will occur in 2022.

Quarterly reviews of the online ADWR Wells 55 database were also completed to assess if groundwater production wells were installed in impacted aquifers downgradient of the FAP or the BAP. For the 2021 reporting period, ADWR Wells 55 database reviews occurred on January 15, March 30, August 16, and November 30. The quarterly reviews are documented in Appendix O. No new well owner coordination was required during the reporting period. Quarterly reviews of the ADWR Wells 55 database will continue in 2022.

4.4.2 Interim Response Measures

While additional pre-design studies necessary for remedy selection are being progressed, APS is implementing several response measures at the FAP and the BAP to limit groundwater impacts in the interim. The interim response measures will also help to evaluate the effectiveness of potential remedial technologies. The interim response measures implemented during the reporting period and planned for 2022 are outlined in the Risk Mitigation Plan (Wood, 2020c) and summarized below.

- *Operation of Improved Seepage Intercept Collection Systems at the FAP* – The FAP Seepage Intercept Collection System, which includes the existing Geronimo Seepage Collection System, existing Hunt Seepage Collection System, the four wells (EW-01 through EW-04) installed downgradient of the FAP in December 2020 (Appendix G) and the replacement well GSX-1R installed in May 2021 (Appendix A), were evaluated for improvements that would allow the system to more effectively capture seepage from the FAP before it discharges to groundwater. Improvements that were evaluated include: installing pump elapsed time meters; upgrading, replacing and increasing the number of flow meters on the system to better understand system flows; plumbing the new wells with piping and pumps; and upgrading electrical and instrument controls. This project is currently in the design phase and is expected to be completed and commissioned in 2022.
- *Evaluation of FAP Dewatering Strategies* – FAP water level monitoring data trends suggest that recent decreases in free water levels are largely driven by evaporation in the warmer months of the year. To expedite the containment of seepage from and closure of the FAP, APS is progressing a mechanically enhanced evaporation strategy to remove free water from the unit. Since the water in the FAP has a high TDS concentration and is continuing to concentrate constituents that are expected to impact evaporation rates, a pilot test evaluating use of an irrigation system and floating evaporator equipment will be implemented in early 2022 and expanded as warranted based on the results of the study.
- *Operation of Extraction Wells at the BAP* – The five new wells (BSX-01 through BSX-05) installed downgradient of the BAP in May 2021 may be converted into extraction wells and incorporated into an extraction well network to capture seepage from the BAP. The aquifer testing performed at four of the five wells in June 2021 (Section 4.3.1) will help to evaluate the effectiveness of additional extraction wells added to the network as part of a potential remedy.
- *Evaluation of In-Situ Remedial Technologies for the BAP* – As part of the BAP Pre-Design Studies, laboratory-scale evaluations will be conducted with solid and aqueous samples collected during the site investigation activities conducted in May through October 2021 (Section 4.3.1). The

laboratory tests will be performed to assess in-situ groundwater remedial technologies for the elevated cobalt concentrations in groundwater downgradient of the BAP. Laboratory testing of solid and aqueous samples taken during field investigations began October 2021 and will be completed in early 2022 (Section 4.3.1 and 5.0).

- *Existing Seepage Intercept Collection Systems and Mass Removal Estimates* – The existing seepage intercept collection systems at both the FAP and the BAP were maintained and operated through 2021. An estimated total mass removed of all Appendix IV constituents (minus radionuclides) was calculated for the operating systems over the past year. The estimated contaminant mass removed from the groundwater by these systems in 2021 is based on the annualized average flow rates and average constituent concentration measured at each system. There is currently flow metering equipment available to estimate flow rates at the BAP seepage collection systems (i.e., the Toe Drain System, Petroglyph Seep, Tanner Wash Seep and the TWX area wells) and at the FAP seepage collection systems (i.e., Geronimo and Hunt). In addition, the contaminant mass removed during aquifer testing performed in 2021 at each area was included. Tables 4-1, and 4-2 show the results of this calculation. The total estimated mass removed at the FAP was 0.5 tons and at the BAP was 0.6 tons for a total removal of 1.1 tons of Appendix IV constituents in 2021. Fluoride represented 87% of the removed Appendix IV constituent mass during the year.

4.5 Semiannual Progress Report on Remedy Selection for the FAP and BAP

40 CFR §257.97(a) requires the preparation of semiannual reports which document the progress of remedy selection for CCR units that have potentially impacted groundwater until the remedy is selected. Accordingly, a semiannual report was prepared on July 15, 2021 which describes the progress of remedy selection for the FAP and the BAP and is presented as Appendix P.

This Annual GMCAR for 2021 fulfills the requirements of 40 CFR §257.97(a) for a subsequent semiannual progress report by providing updates on remedy selection (Section 4.3) and future planned activities (Section 5.0) for the FAP and BAP.

4.6 CCR Unit Closure Activities

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

4.6.1 SEDI Closure

On October 30, 2020, APS provided notice of its intent to close the SEDI per 40 CFR §257.101(a)(1) and thus closure must be completed by October 30, 2025 per 40 CFR §257.102(f)(1)(ii). The closure plan for the SEDI (AECOM, 2020) includes closure by removal of CCR solids in accordance with 40 CFR §257.102(c) and consists of dewatering the pond, removing CCR deposits using conventional excavators and loaders, consolidation of the CCR material in another CCR unit located at the facility, and refilling the excavation with clean backfill material.

During the previous reporting period, the unit was drained, CCR was removed from the northwest corner of the SEDI footprint, and a new 60,000-gallon concrete tank system was constructed and commissioned to fulfill the function of the SEDI. In 2021, SEDI closure activities included: decontamination and demolishment of existing concrete structures within the unit (a divider wall, spillway, inlet structure, and outlet structure), removal of the decontaminated concrete structures to the facility's inert landfill, excavation of remaining CCR from the SEDI with placement of the excavated material in the BAM, and backfilling/compacting the excavation with clean soil. CCR removal from concrete structures and the SEDI footprint was visually inspected and certified by a professional engineer on October 13, 2021 (Appendix Q).

At the time CCR removal from the SEDI was completed, the unit was in Assessment Monitoring due to SSIs in boron, pH, and sulfate concentrations in groundwater over background declared in January 2018 (Wood, 2019a). Since transitioning to Assessment Monitoring on May 16, 2018, no Appendix IV constituents have been identified at SSLs over GWPSs. The SEDI will be considered closed when groundwater monitoring indicates that all Appendix IV constituents are less than GWPSs for two consecutive sampling events using the statistical procedures in 40 CFR §257.93(g) following removal of CCR from the unit. An update of the SDAWP will be conducted in 2022 to specifically address unit closure statistical evaluation (Section 5.0)

4.6.2 FAP and BAP Closure

As indicated in Section 4.4, a demonstration supporting a Site-specific deadline to initiate closure per 40 CFR §257.103(f)(2) was submitted by APS to the USEPA on November 30, 2020. The USEPA had not made a determination regarding the demonstration as of December 31, 2021. APS placed an Annual Progress Report Documenting the Continued Lack of Alternative Capacity and Progress Towards Closure of the FAP and BAP (Appendix R) in the facility operating record on November 29, 2021.

5.0 Key Activities For 2022

During 2022, the following key activities will likely be conducted to support CCR groundwater monitoring and corrective action compliance at the Site:

- *Preparation of an Annual Groundwater Monitoring and Corrective Action Report for 2022* – Per 40 CFR §257.90(e), an annual report documenting groundwater monitoring and corrective action activities in 2022 will be prepared no later than January 31, 2023.
- *Update of the SDAWP and Statistical Analyses for the BAP and FAP* – The Site Statistical Data Analysis Work Plan will be updated to include statistical analyses to support unit closure as needed. Statistical analyses will also be conducted for any notable GWPS exceedances that are not currently COCs for the BAP and FAP.
- *Update of the SAP* – As the SAP for the Site was originally developed by Montgomery & Associates in 2015, the SAP will be updated in 2022. Additionally, the SAP will need to be updated as part of remedy selection for the FAP and BAP.
- *Continued Detection Monitoring at the BAM with Ongoing Statistical Evaluation for SSIs Over Background* – Per 40 CFR §257.94(b), detection monitoring (including analysis of collected samples for Appendix III constituents) will continue on a semiannual basis. On an ongoing basis, it will be determined whether there has been an SSI over background at the CCR units undergoing detection monitoring within 90 days of sampling and analysis (40 CFR §257.93[h][2]).
- *Initiation of Assessment Monitoring for CCR Units with an SSI over Background (as applicable)* – Per 40 CFR §257.94(e)(1), within 90 days of detecting an SSI over background levels for any Appendix III constituent, an assessment monitoring program must be established.
- *Continued Assessment Monitoring at the BAP, FAP, and SEDI* – While corrective action evaluation progresses at the BAP and FAP, assessment monitoring (including analysis of collected samples for Appendix III and Appendix IV constituents) must be conducted on a semiannual basis per 40 CFR §257.95(b) and (d)(1). At the SEDI, assessment monitoring will continue until statistical evaluation pursuant to 40 CFR §257.93(g) demonstrates that all Appendix IV constituents are less than GWPSs for two consecutive sampling events after removal of CCR from the unit was completed.

- *Laboratory Transition* – A plan to consider transitioning to other laboratories for groundwater quality evaluations will be prepared in 2022. This plan may also be implemented during 2022.
- *Preparation of BAP Pre-Design Studies Reports* – Analyses and summaries of BAP Pre-Design data collected in 2021 will be compiled and prepared as several reports in 2022. These reports will likely include the following;
  - *BAP Well Completion Report* – A well completion report documenting the installation of new BAP wells and aquifer testing of the select new extraction and monitoring wells downgradient of the BAP.
  - *BAP Geophysical Survey Report* – A report summarizing the field activities and findings of the geophysical surveying conducted in Tanner Wash upgradient of the BAP.
  - *BAP Geochemical Evaluation Report* – A geochemical report documenting solid and aqueous matrix samples collected at the BAP and an evaluation of the results. This will include evaluation of additional constituents collected during CCR monitoring events throughout 2021.
  - *BAP Pre-Design Summary Report* – An abridged report summarizing the findings of the above reports as they relate to one another.
- *Updates to the Numerical Groundwater Model* – The existing numerical groundwater model for the Site to assist in the evaluation and selection of remedies for the FAP and BAP will be updated in 2022.
- *Interim Response Measures at the FAP and BAP* – In tandem with additional field investigations, interim response measures outlined in Section 4.4.2 will continue to limit the groundwater impacts from the FAP and BAP while remedies are being evaluated and selected.
- *FAP Closure* – As part of planned unit closure at the FAP, APS will continue to develop and potentially implement a dewatering design.
- *Public Meeting* – Per 40 CFR §257.96(e), APS will conduct a public meeting with interested and affected parties to present the results of the ACM for the FAP and the BAP at least 30 days prior to selecting remedies for each CCR unit.
- *Remedy Selection* – APS will select remedies for the FAP and the BAP that meet the requirements of 40 CFR §257.97(b). Additionally, a remedy selection report for each unit per 40 CFR §257.97(a) will be prepared.
- *Initiation of Remedial Activities* – Per 40 CFR §257.91(f), APS will begin remedial activities at the FAP and the BAP within 90 days of selecting a remedy for each unit.

Since the nature of corrective actions is implemented in phases based on analysis of data collected during the groundwater monitoring program, the foregoing list only includes reasonably probable activities that will occur in 2022; this list is not comprehensive.

6.0 References

AECOM, 2020. *Cholla Power Plant Closure Plan, §257.102(b), Sedimentation Pond. Amendment 1* CH_ClosPlan_004_20201104. November 4, 2020.

AMEC Environment & Infrastructure, Inc. (AMEC), 2012. *Well Completion Report, Installation of Aquifer Protection Permit Monitor Wells*, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. AMEC Job No. 17-2011-4054. May 7, 2012.

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments).*

Montgomery & Associates, 2011. *Arizona Public Service Cholla Power Plant Point of Compliance Evaluation*. Prepared for APS. January 26, 2011.

Montgomery & Associates, 2015. *Groundwater Sampling and Analysis Program, Cholla Power Plant*, Joseph City, Arizona. #CH_GW_SAP_021_11-30-15. November 30, 2015.

Montgomery & Associates, 2017. *Cholla Power Plant Coal Combustion Residuals Program - Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks*. Navajo County, Arizona. Document #CH_GW_SystemCert_020_20170919. September 19, 2017.

Shilling, 2005. *A Description, History, and Finder's Guide for the Joseph City Irrigation System, Navajo County, Arizona*. Report, Linda Shilling. Tempe, Arizona: Archaeological Consulting Services, Ltd. July 8, 2005.

USEPA, 2014. 3PE: A Tool for Estimating Groundwater Flow Vectors. Authored by M. Beljin, R. Ross, and S. Acree. EPA/600/R-14/273. Washington, DC. Accessed at https://www3.epa.gov/ceampubl/learn2model/part-two/onsite/gradient4plus-ns.html. November 30, 2021.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant, Navajo County, Arizona. October 15, 2018.

Wood, 2019a. *Annual Groundwater Monitoring and Corrective Action Report for 2018*. Coal Comnustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31, 2019.

Wood, 2019b. *Assessment of Corrective Measures for the Fly Ash Pond and the Bottom Ash Pond*. Coal Combustion Residual Rule and Aquifer Protection Permit Compliance, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. June 14, 2019.

Wood, 2020a. *Annual Groundwater Monitoring and Corrective Action Report for 2019*. Coal Combustion Residual Rule Groundwater Monitoring Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31, 2020.

Wood, 2020b. *Hydrogeologic Investigation of the Fly Ash Pond and Bottom Ash Pond*. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31, 2020.

Wood, 2020c. *Risk Mitigation Plan for the Fly Ash Pond and the Bottom Ash Pond*. Coal Combustion Residuals Rule Compliance. Arizona Public Service Cholla Power Plant - Navajo County, Arizona. October 30, 2020.

Wood, 2021a. *Annual Groundwater Monitoring and Corrective Action Report for 2020*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. January 31, 2021.

Wood, 2021b. *Evaluation of Groundwater Redox Conditions at the FAP*. Arizona Public Service, Cholla Power Plant, Navajo County, Arizona. Prepared for APS. January 22, 2021.

Tables

Table 1-1
Description of Coal Combustion Residual Units

CCR Unit	Function	Operation	Size/Construction	History
Fly Ash Pond (FAP)	*Single CCR unit* - surface impoundment to store slurried fly ash from the plant.	Receives a slurry from the plant that contains primarily fly ash but may also contain some bottom ash, boiler slag, flue gas emission control residuals, boiler cleaning waste, oil/water separator solids, and storm water. Periodically receives solids from the SEDI.	- 430 acres in aerial extent. - Total storage capacity of about 18,000 acre-feet. - Normal operating pool elevation of 5,114 feet amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and a thin veneer of alluvial sediments. - The dam is constructed of earth fill with a central clay core that extends to bedrock where bedrock is shallow. In the central portion of the dam, where bedrock is deeper, a slurry cutoff wall extends one foot into bedrock or two feet into stiff clay.
Sedimentation Pond (SEDI)	*Single CCR unit* - collects water from drains around plant site, including storm water, process water, plant water, and slurry from plant leaks.	Collects discharge from on-site secondary wastewater treatment plant, effluent from the oil/water separator, vehicle wash water, plant wash water, and FGD wastes from scrubber or scrubber feed tank upsets. Water collected in the SEDI is pumped to Cholla's general water sump for recycling as process water.	- 1.3 acres in aerial extent. - Total storage capacity of 10.5 acre-feet. - Maximum pond depth of 10 feet. - the top of the pond side slope is at 5,019 feet amsl	- Placed into service in 1976. - Lined with a 2-foot-thick layer of compacted clay. - Constructed below grade. - Discharges to the SEDI ceased as of October 2020. - Demolition and excavation of SEDI complete as of October 2021.
Bottom Ash Pond (BAP)	*Single CCR unit* - surface impoundment to store slurried bottom ash from the plant.	Bottom ash is pumped to the BAP as a slurry. The bottom ash settles in the east and west upstream storage cells and the water is decanted to the reservoir and ultimately siphoned back to the plant for reuse. Slurry may also contain fly ash, boiler slag, flue gas emission control residuals, sedimentation pond effluent, cooling tower blowdown, oil/water separator effluent and solids, boiler cleaning waste, and storm water. Periodically receives solids from the SEDI.	- 105 acres in aerial extent. - Total storage capacity of 2,300 acre-feet. - Normal operating pool elevation of 5,117.8 feet amsl.	- Constructed beginning in 1976 and placed into service in 1978. - Unlined; constructed on Moenkopi bedrock and Tanner Wash alluvium. - Consists of a reservoir directly behind the dam and two storage cells upstream of the reservoir. - The dam is constructed of earth fill with a central clay core that extends to bedrock where bedrock is shallow. In the central portion of the dam, where bedrock is deeper, a slurry cutoff wall extends one foot into bedrock or two feet into stiff clay.
Bottom Ash Monofill (BAM)	*Single CCR unit* - landfill for bottom ash solids excavated from the BAP.	Bottom ash that has been drained of water is excavated from the BAP and permanently stored in the BAM.	- 41 acres in aerial extent.	- Placed into service in 1999.

Source:
GEI Consultants, Inc. 2009. *Final Coal Ash Impoundment Specific Site Assessment Report, Arizona Public Service, Cholla Power Plant.* Submitted to Lockheed-Martin Corporation. December 2009.

Abbreviations:
amsl - above mean sea level
BAP - Bottom Ash Pond
BAM - Bottom Ash Monofill
CCR - Coal combustion residuals
FAP - Fly Ash Pond
FGD - flue gas deulfurization
SEDI - Sedimentation Pond

Table 1-2
CCR Groundwater Monitoring System Summary

Well	ADWR Well Index Number	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
M-54	55-918646	BAM	Background	Coconino Sandstone	10/2/2015	370	5070.71	5068.21	315	365	50	4,753.21	4,703.21	4,698.21
M-59	55-918647	BAM	Downgradient	Coconino Sandstone	10/21/2015	425	5136.00	5133.86	373	423	50	4,760.86	4,710.86	4,708.86
M-60	55-918649	BAM	Downgradient	Coconino Sandstone	11/1/2015	450	5151.18	5148.69	395	445	50	4,753.69	4,703.69	4,698.69
M-61	55-918648	BAM	Downgradient	Coconino Sandstone	11/13/2015	420	5127.58	5124.95	365	415	50	4,759.95	4,709.95	4,704.95
BSX-01	55-926097	BAP	Extraction	Tanner Wash Alluvium	5/4/2021	55	5045.93	5044.41	10	50	40	5,034.41	4,994.41	4,989.41
BSX-02	55-926099	BAP	Extraction	Tanner Wash Alluvium	5/12/2021	130	5049.62	5048.26	104	124	20	4,944.26	4,924.26	4,918.26
BSX-03	55-926100	BAP	Extraction	Tanner Wash Alluvium	5/3/2021	84	5051.13	5049.6	36	76	40	5,013.60	4,973.60	4,965.60
BSX-04	55-926240	BAP	Extraction	Tanner Wash Alluvium	5/15/2021	51	5056.18	5054.63	22	42	20	5,032.63	5,012.63	5,003.63
BSX-05	55-926102	BAP	Extraction	Tanner Wash Alluvium	5/15/2021	29	5056.37	5054.84	10	20	10	5,044.84	5,034.84	5,025.84
M-47A	55-913984	BAP	Supplementary	LCR Alluvium	1/20/2012	184	5020.34	5021.45	30.5	60	29.5	4,990.95	4,961.45	4,837.45
M-52A	55-918657	BAP	Downgradient	Tanner Wash Alluvium/Moenkopi - Moqui Member	9/22/2015	83	5049.36	5047.08	20	70	50	5,027.08	4,977.08	4,964.08
M-53A	55-918651	BAP	Downgradient	Tanner Wash Alluvium	9/22/2015	38	5044.68	5042.09	10	35	25	5,032.09	5,007.09	5,004.09
M-55A	55-918701	BAP	Supplementary	Tanner Wash Alluvium	10/30/2015	60	5062.82	5060.06	20	55	35	5,040.06	5,005.06	5,000.06
MW-69A	55-923618	BAP	Supplementary	Tanner Wash Alluvium	11/20/2019	27	5050.741	5049.25	16.6	26.6	10	5,032.65	5,022.65	5,022.25
MW-70M	55-923582	BAP	Supplementary	Moenkopi Formation - Moqui Member	11/22/2019	77.5	5051.119	5049.80	45.6	75.6	30	5,004.20	4,974.20	4,972.30
MW-71A	55-926812	BAP	Downgradient	Tanner Wash Alluvium	9/28/2021	30	5050.680	5050.15	15.0	25.0	10	5,035.15	5,025.15	5,020.15
MW-72M	55-926814	BAP	Downgradient	Moenkopi Formation - Moqui Member	9/19/2021	125	5049.670	5050.54	59.0	69.0	10	4,991.54	4,981.54	4,925.54
MW-73A	55-926813	BAP	Downgradient	Tanner Wash Alluvium	9/23/2021	26	5049.190	5049.66	11.0	21.0	10	5,038.66	5,028.66	5,023.66
MW-74M	55-926815	BAP	Downgradient	Moenkopi Formation - Moqui Member	9/23/2021	125	5049.070	5049.74	45.0	65.0	20	5,004.74	4,984.74	4,924.74
MW-76A	55-926103	BAP	Downgradient	Tanner Wash Alluvium	5/1/2021	52	5033.890	5032.24	16.0	26.0	10	5,016.24	5,006.24	4,980.24
MW-77A	55-926104	BAP	Downgradient	Tanner Wash Alluvium/Moenkopi Formation - Moqui Member	4/30/2021	65	5031.020	5029.78	44.0	64.0	20	4,985.78	4,965.78	4,964.78
MW-78A	55-926105	BAP	Downgradient	Tanner Wash Alluvium	5/4/2021	107	5036.950	5035.05	66.0	96.0	30	4,969.05	4,939.05	4,928.05
MW-79A	55-926106	BAP	Downgradient	Tanner Wash Alluvium	5/17/2021	177	5040.890	5038.24	135.0	165.0	30	4,903.24	4,873.24	4,861.24
W-227	55-506586	BAP	Supplementary	Moenkopi Formation - Wupatki Member	11/2/1983	58	5122.820	5120.32	38	55	17	5,082.32	5,065.32	5,062.32
W-301	55-506372	BAP	Supplementary	Tanner Wash Alluvium	10/4/1983	62	5033.68	5031.18	40	60	20	4,991.18	4,971.18	4,969.18
W-302	55-506271	BAP	Supplementary	Tanner Wash Alluvium	11/1/1983	44	5036.42	5033.90	27	42	15	5,006.90	4,991.90	4,989.90
W-303	55-506369	BAP	Supplementary	Moenkopi Formation - Moqui Member	10/26/1983	32	5039.70	5037.20	20	30	10	5,017.20	5,007.20	5,005.20
W-304	55-506370	BAP	Supplementary	Tanner Wash Alluvium	10/26/1983	56	5038.60	5036.10	35	54	19	5,001.10	4,982.10	4,980.10
W-305	55-906364	BAP	Downgradient	Tanner Wash Alluvium	10/7/1983	102	5046.80	5044.65	80	100	20	4,964.65	4,944.65	4,942.65
W-306	55-506365	BAP	Downgradient	Tanner Wash Alluvium	10/11/1983	52	5046.74	5044.78	30	50	20	5,014.78	4,994.78	4,992.78
W-307*	55-506366	BAP	Supplementary	Tanner Wash Alluvium	10/21/1983	62	5045.22	5042.70	40	60	20	5,002.70	4,982.70	4,980.70
W-307R	55-926816	BAP	Supplementary	Tanner Wash Alluvium	10/4/2021	67	5048.33	5045.10	35	65	30	5,010.10	4,980.10	4,978.10
W-308	55-506368	BAP	Supplementary	Tanner Wash Alluvium	10/19/1983	72	5051.54	5049.00	50	70	20	4,999.00	4,979.00	4,977.00
W-309	55-506367	BAP	Supplementary	Tanner Wash Alluvium	10/14/1983	81	5062.01	5059.50	64	79	15	4,995.50	4,980.50	4,978.50
W-310	55-506367	BAP	Supplementary	Moenkopi Formation - Wupatki Member	12/19/1992	240	5050.61	5048.60	218	238	20	4,830.60	4,810.60	4,808.60
W-311	55-533813	BAP	Supplementary	Coconino Sandstone	12/14/1991	281	5050.03	5047.7	259	279	20	4,788.70	4,768.70	4,766.70
W-312	55-533811	BAP	Supplementary	Moenkopi Formation - Wupatki Member	1/22/1992	259	5052.01	5049.3	238	258	20	4,811.30	4,791.30	4,790.30
W-313	55-533814	BAP	Supplementary	Coconino Sandstone	1/27/1992	293	5051.32	5049.1	272	292	20	4,777.10	4,757.10	4,756.10
W-314	55-533814	BAP	Downgradient	Tanner Wash Alluvium	1/27/1992	63	5051.10	5051.32	41	61	20	5,010.32	4,990.32	4,988.32
W-317	55-913770	BAP	Supplementary	LCR Alluvium	11/10/2011	122.5	5022.27	5023.09	28.8	58.8	30	4,994.29	4,964.29	4,900.59

Table 1-2

CCR Groundwater Monitoring System Summary

Well	ADWR Well Index Number	CCR Unit	Well Designation	Hydrogeologic Unit	Date Installed	Borehole Depth [ft bgs]	Top of Casing Elevation [ft AMSL]	Ground Surface Elevation [ft AMSL]	Top of Screen [ft bgs]	Bottom of Screen [ft bgs]	Screen Length [ft]	Top Screen Elevation [ft AMSL]	Bottom Screen Elevation [ft AMSL]	Bottom Borehole Elevation [ft AMSL]
DM-04R	55-910008	FAP	Supplementary	LCR Alluvium	11/22/2008	90	5018.43	5015.77	35	65	30	4,980.77	4,950.77	4,925.77
EW-01	55-925217	FAP	Extraction	LCR Alluvium	12/10/2020	55.0	5037.36	5035.09	20.0	50.0	30	5,015.09	4,985.09	4,980.09
EW-02	55-925218	FAP	Extraction	LCR Alluvium	12/11/2020	52.0	5036.64	5034.01	17.0	47.0	30	5,017.01	4,987.01	4,982.01
EW-03	55-925215	FAP	Extraction	LCR Alluvium	12/12/2020	53.0	5037.71	5035.2	18.0	48.0	30	5,017.20	4,987.20	4,982.20
EW-04	55-925216	FAP	Extraction	LCR Alluvium	12/10/2020	24.0	5039.93	5037.18	9.0	19.0	10	5,028.18	5,018.18	5,013.18
M-43A	55-910013	FAP	Supplementary	LCR Alluvium	11/21/2008	80	5022.56	5019.87	40	70	30	4,979.87	4,949.87	4,939.87
M-44D	55-909987	FAP	Supplementary	Coconino Sandstone	11/13/2008	385	5143.52	5140.94	320	380	60	4,820.94	4,760.94	4,755.94
M-44S	55-909988	FAP	Supplementary	Moenkopi Formation - Wupatki Member	11/13/2008	290	5145.63	5143.01	250	280	30	4,893.01	4,863.01	4,853.01
M-45A	55-913769	FAP	Supplementary	LCR Alluvium	11/12/2011	68	5025.57	5023.57	31	60	29.7	4,993.07	4,963.37	4,955.57
M-46A	55-913771	FAP	Supplementary	LCR Alluvium	11/14/2011	40	5025.36	5023.36	22	34	12	5,001.36	4,989.36	4,983.36
M-49A	55-918639	FAP	Supplementary	LCR Alluvium	9/17/2015	35	5024.70	5022.70	10	20	10	5,012.70	5,002.70	4,987.70
M-50A	55-918641	FAP	Downgradient	LCR Alluvium	9/18/2015	32	5038.18	5035.65	9	29	20	5,026.65	5,006.65	5,003.65
M-51A	55-918640	FAP	Downgradient	LCR Alluvium	9/19/2015	14	5041.77	5039.10	7	12	5	5,032.10	5,027.10	5,025.10
M-63A	55-918638	FAP	Supplementary	LCR Alluvium	9/25/2015	57	5021.82	5018.9	25	55	30	4,993.90	4,963.90	4,961.90
MW-65A	55-922299	FAP	Downgradient	LCR Alluvium	11/15/2018	25	5027.86	5026.21	9	19	10	5,017.31	5,007.31	5,001.21
MW-66A	55-922300	FAP	Downgradient	LCR Alluvium	11/14/2018	60	5033.35	5032.46	24	49	25.1	5,008.86	4,983.76	4,972.46
MW-67A	55-922301	FAP	Downgradient	LCR Alluvium	11/16/2018	50	5025.38	5024.05	15	45	30.1	5,009.45	4,979.35	4,974.05
MW-68M*	55-923346	FAP	Supplementary	Moenkopi Formation - Moqui Member	9/16/2019	50	5026.95	5026.45	30	50	20.1	4,996.71	4,976.61	4,976.10
W-123*	55-506587	FAP	Downgradient	Moenkopi Formation - Moqui Member	11/4/1983	40	5039.838	5038.136	14	29	15	5,024.14	5,009.14	4,998.14
W-123R	55-926116	FAP	Downgradient	LCR Alluvium	5/12/2021	67	5041.06	5038.83	35	65	30	5,003.83	4,973.83	4,971.83
W-124	55-533820	FAP	Supplementary	Moenkopi Formation - Wupatki Member	2/14/1992	96	5037.53	5036.00	76	96	20	4,960.00	4,940.00	4,940.00
W-125	55-533817	FAP	Supplementary	Coconino Sandstone	2/13/1992	141	5038.37	5036.00	120	140	20	4,916.00	4,896.00	4,895.00
W-126*	55-553268	FAP	Supplementary	Moenkopi Formation - Moqui Member	12/1/1995	50	5034.75	5032.75	15	45	30	5,017.75	4,987.75	4,982.75
W-126R	55-926120	FAP	Supplementary	LCR Alluvium	05/03/2021	27	5031.71	5030.19	9	19	10	5,021.19	5,011.19	5,003.19
W-127	55-560489	FAP	Supplementary	LCR Alluvium	2/11/1997	33.3	5030.04	5025.18	15	30	15	5,010.18	4,995.18	4,991.88
M-64A	55-920353	FAP/BAP	Background	LCR Alluvium	2/9/2017	69	4991.90	4988.90	30	60	30	4,958.90	4,928.90	4,919.90
CR-1*	55-926108	SEDI	Supplementary	LCR Alluvium	9/24/1993	45	5010.20	5006.15	25	45	20	4,981.15	4,961.15	4,961.15
CR-1R	55-926108	SEDI	Supplementary	LCR Alluvium	4/28/2021	67	5010.02	5007.9	28	48	20	4,979.90	4,959.90	4,940.90
M-48A	55-913983	SEDI	Supplementary	LCR Alluvium	1/22/2012	145	5020.37	5018.37**	30.5	59.5	29	4,987.87	4,958.87	4,873.37
M-56A	55-918661	SEDI	Downgradient	LCR Alluvium	10/7/2015	100	5023.17	5020.63	40	85	45	4,980.63	4,935.63	4,920.63
M-57A	55-918660	SEDI	Downgradient	LCR Alluvium	10/8/2015	100	5023.82	5021.16	40	85	45	4,981.16	4,936.16	4,921.16
M-58A	55-918659	SEDI	Downgradient	LCR Alluvium	10/13/2015	100	5023.84	5021.24	39	84	45	4,982.24	4,937.24	4,921.24
M-62A	55-918658	SEDI	Background	LCR Alluvium	11/17/2015	97	5020.87	5021.01	39	84	45	4,982.01	4,937.01	4,924.01
GSX-1R	55-926115	FAP	Extraction	LCR Alluvium	5/16/2021	54	5037.97	5036.1	29	49	20	5,007.10	4,987.10	4,982.10

Source:

AMEC Earth & Infrastructure, Inc., 2012. *Well Completion Report, Installation of Aquifer Protection Permit Monitor Wells, Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona.* AMEC Job No. 17-2011-4054. May 7, 2012.

Montgomery & Associates, 2017. Cholla Power Plant Coal Combustion Residuals Program–Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks. Navajo County, Arizona. September 19, 2017.

Wood Environment & Infrastructure Solutions, Inc. Surveying, 2018 and 2019.

Martin Land Surveys, Inc., 2020 and 2021.

Notes and Abbreviations:

ADWR - Arizona Department of Water Resources
AMSL - Above mean sea level (Vertical datum is NAVD 88)
BAM - Bottom Ash Monofill
BAP - Bottom Ash Pond
bgs - below ground surface
CCR - Coal combustion residuals
FAP - Fly Ash Pond
ft - feet
LCR - Little Colorado River
NA - Not Available
SEDI - Sedimentation Pond
* Abandoned well
**Approximate - elevation based on measured stickups

Table 3-1
Appendix III Constituent BTVs and Appendix IV Constituent GWPSs for Cholla CCR Units

		BAM		SEDI			FAP			BAP		
	Constituent	**BTV [mg/L]**	**Reference**	**BTV [mg/L]**	**GWPS [mg/L]**	**Reference**	**BTV [mg/L]**	**GWPS [mg/L]**	**Rerference**	**BTV [mg/L]**	**GWPS [mg/L]**	**Reference**
Appendix III Constituents	Boron	0.55	*5*	0.23		*1*	1.3		*1*	1.3		*1*
	Calcium	101	*6*	600		*1*	740		*1*	740		*1*
	Chloride	1,600	*1*	3,700		*1*	5,700		*1*	5,700		*1*
	Fluoride	1.8 (M-59), 1.7 (M-60), 1.6 (M-61)	*6,* *8,* *8*	0.8	N/A	*1*	0.8	N/A	*1*	0.8	N/A	*1*
	pH[1]	7.3 to 7.8	*5*	7.5		*1*	7.4		*1*	7.4		*1*
	Sulfate	380	*5*	630		*1*	5,100		*1*	5,100		*1*
	TDS	3,225	*6*	7,800		*1*	15,000		*1*	15,000		*1*
Appendix IV Constituents	Antimony			0.05	0.05	*4*	0.004	0.006	*3*	0.004	0.006	*2*
	Arsenic			0.008	0.01	*7*	0.004	0.01	*3*	0.004	0.01	*2*
	Barium			0.16	2	*7*	0.05	2	*3*	0.05	2	*2*
	Beryllium			0.001	0.004	*4*	0.001	0.004	*3*	0.001	0.004	*2*
	Cadmium			0.002	0.005	*4*	0.0004	0.005	*3*	0.0004	0.005	*2*
	Chromium			0.018	0.1	*7*	0.004	0.1	*3*	0.004	0.1	*2*
	Cobalt			0.003	0.006	*7*	0.002	0.006	*3*	0.002	0.006	*2*
	Fluoride	N/A		0.8	4	*4*	0.8	4	*3*	0.8	4	*2*
	Lead			0.01	0.015	*4*	0.002	0.015	*3*	0.002	0.015	*2*
	Lithium			0.2	0.2	*4*	0.31	0.31	*3*	0.31	0.31	*2*
	Mercury			0.0002	0.002	*4*	0.0002	0.002	*3*	0.0002	0.002	*2*
	Molybdenum			0.015	0.1	*7*	0.0061	0.1	*3*	0.0061	0.1	*2*
	Selenium			0.01	0.05	*4*	0.002	0.05	*3*	0.002	0.05	*2*
	Thallium			0.0005	0.002	*7*	0.0014	0.002	*3*	0.0014	0.002	*2*
	Combined Radium[2]			2.5	5	*7*	1.6	5	*3*	1.6	5	*2*

Notes and Abbreviations:

[1]Units are standard units
[2]Units are picocuries per liter
BAM - Bottom Ash Monofill
BAP - Bottom Ash Pond
BTV - Background Threshold Value
FAP - Fly Ash Pond
GWPS - Groundwater Protection Standard
mg/L - milligrams per liter
N/A - not applicable
SEDI - Sedimentation Pond

References:

1 - Montgomery & Associates, 2018. *Cholla Power Plant Coal Combustion Residuals Program – Statistical Analysis of Baseline Groundwater Monitoring Data November 2015 through September 2017*. Prepared for Arizona Public Service. January 12, 2018. Revised May 22, 2018.

2 - Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Bottom Ash Pond.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum. Prepared on behalf of Arizona Public Service. October 15, 2018.

3 - Wood, 2018. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Fly Ash Pond.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum. Prepared on behalf of Arizona Public Service. October 15, 2018.

4 - Wood, 2019. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Sedimentation Pond.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum. Prepared on behalf of Arizona Public Service. January 14, 2019.

5 - Wood, 2019. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum. Prepared on behalf of Arizona Public Service. April 15, 2019.

6 - Wood, 2021. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill Appendix III Constituent Data Collected through October 2020.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum dated April 12, 2021.

7 - Wood, 2021. *CCR Groundwater Assessment Monitoring Statistical Evaluation of Appendix IV Constituent Data Collected from the Sedimentation Pond through October 2020.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum dated April 12, 2021.

8 - Wood, 2021. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill Appendix III Constituent Data Collected through July 2021.* Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum dated October 13, 2021.

Table 3-2
Monitoring Event Summary for 2021

CCR UNIT	Monitoring Location	Monitoring Location Type	Number of Field Original Samples Collected in 2021[c] Jan 5-8, 2021 (Characterization)	Jan 13, 2021 (Detection Resampling)	Jan 13, 2021 (Assessment Resampling)	Apr 14-18, 2021 (Assessment)	Apr 16, 2021 (Detection)	Jun 3-29, 2021 (Characterization)	July 7, 2021 (Detection Resampling)	Aug 2-3, 2021 (Characterization)	Sep 29, 2021 (Characterization)	Oct 21-31, 2021 (Assessment)	Oct 24, 2021 (Detection)	Nov 19, 2021 (Detection Resampling)	Dec 1-2, 2021 (Characterization)	Number of Field Original Samples Collected in 2021[c]
BAP	BSX-01	Extraction Well	---	---	---	---	---	X	---	X	---	---	---	---	---	2
	BSX-02	Extraction Well	---	---	---	---	---	---	---	X	---	---	---	---	---	1
	BSX-03	Extraction Well	---	---	---	---	---	X	---	X	---	---	---	---	---	2
	BSX-04	Extraction Well	---	---	---	---	---	X	---	X	---	---	---	---	---	2
	BSX-05	Extraction Well	---	---	---	---	---	---	---	X	---	---	---	---	---	1
	M-52A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	M-53A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	M-55A	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	M-64A[a]	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	MW-69A	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	MW-70M	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	MW-71A	CCR Well	---	---	---	---	---	---	---	---	---	X	---	---	---	1
	MW-72M	CCR Well	---	---	---	---	---	---	---	---	---	X	---	---	---	1
	MW-73A	CCR Well	---	---	---	---	---	---	---	---	---	X	---	---	---	1
	MW-74M	CCR Well	---	---	---	---	---	---	---	---	X	X	---	---	---	2
	MW-76A	CCR Well	---	---	---	---	---	---	---	---	---	---	---	---	---	0
	MW-77A	CCR Well	---	---	---	---	---	X	---	X	---	X	---	---	---	3
	MW-78A	CCR Well	---	---	---	---	---	X	---	X	---	X	---	---	---	3
	MW-79A	CCR Well	---	---	---	---	---	X	---	X	---	X	---	---	---	3
	W-301	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-302	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-303	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-304	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-305	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-306	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-307[d]	Supplementary Well	---	---	---	X	---	---	---	---	---	---	---	---	---	1
	W-307R	Supplementary Well	---	---	---	---	---	---	---	---	---	X	---	---	X	2
	W-308	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-309	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-314	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	W-317	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	BAP	Surface Water	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	Tanner Wash Sump	Seepage Collection Sump	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	Petroglyph Sump	Seepage Collection Sump	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	Toe Drain Sump	Seepage Collection Sump	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-3	Seepage Extraction Well	---	---	---	---	---	---	---	---	---	X	---	---	---	1
	TWX-4	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-5	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-6	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-7	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-8	Seepage Extraction Well	---	---	---	---	---	---	---	---	---	X	---	---	---	1
	TWX-9	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
	TWX-10	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
BAM	M-54	CCR Well	---	---	---	---	X	---	---	---	---	---	X	X	---	3
	M-59	CCR Well	---	X	---	---	X	---	---	---	---	---	X	X	---	4
	M-60	CCR Well	---	X	---	---	X	---	X	---	---	---	X	X	---	5
	M-61	CCR Well	---	X	---	---	X	---	---	---	---	---	X	X	---	4
Analyzed Constituents			---	*Select App III Constituents*	---	*App III, App IV and Additional Constituents*	*App III Constituents*	*Select App III, App IV and Additional Constituents*	*Select App III Constituents*	*Select App III, App IV and Additional Constituents*	*Select App III, App IV and Additional Constituents*	*App III, App IV and Additional Constituents*	*App III Constituents*	*Select App III Constituents*	*Select App III, App IV and Additional Constituents*	**Total Samples: 95**

Table 3-2
Monitoring Event Summary for 2021

CCR UNIT	Monitoring Location	Monitoring Location Type	Number of Field Original Samples Collected in 2021(c)													Number of Field Original Samples Collected in 2021(c)
			Jan 5-8, 2021 (Characterization)	Jan 13, 2021 (Detection Resampling)	Jan 13, 2021 (Assessment Resampling)	Apr 14-18, 2021 (Assessment)	Apr 16, 2021 (Detection)	Jun 3-29, 2021 (Characterization)	July 7, 2021 (Detection Resampling)	Aug 2-3, 2021 (Characterization)	September 29, 2021 (Characterization)	Oct 21-31, 2021 (Assessment)	Oct 24, 2021 (Detection)	Nov 19, 2021 (Detection Resampling)	November, 2021 (Characterization)	
SEDI	M-56A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
SEDI	M-57A	CCR Well	---	---	X	X	---	---	---	---	---	X	---	---	---	3
SEDI	M-58A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
SEDI	M-62A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
SEDI	CR-1R	Supplementary Well	---	---	---	---	---	---	---	X	---	X	---	---	---	2
FAP	EW-02	Extraction Well	X	---	---	---	---	---	---	---	---	---	---	---	---	1
FAP	EW-04	Extraction Well	X	---	---	---	---	---	---	---	---	---	---	---	---	1
FAP	M-43A	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-44D	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-45A	Supplementary Well	---	---	---	X			---	---	---	X	---	---	---	2
FAP	M-46A	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-50A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-51A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-63A	Supplementary Well	---	---	---	X			---	---	---	X	---	---	---	2
FAP	M-65A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-66A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	M-67A	CCR Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	W-123(d)	CCR Well	---	---	---	X	---	---	---	---	---	---	---	---	---	1
FAP	W-123R	CCR Well	---	---	---	---	---	X	---	X	---	X	---	---	---	3
FAP	W-125	Supplementary Well	---	---	---	X	---	---	---	---	---	X	---	---	---	2
FAP	W-126(d)	Supplementary Well	---	---	---	X	---	---	---	---	---	---	---	---	---	1
FAP	W-126R	Supplementary Well	---	---	---	---	---	X	---	X	---	X	---	---	---	3
FAP	FAP	Surface Water	---	---	---	---	---	---	---	---	---	X	---	---	---	1
FAP	Geronimo C	Seepage Collection Sump	---	---	---	X	---	---	---	---	---	---	---	---	---	1
FAP	Geronimo D	Seepage Collection Sump	---	---	---	X	---	---	---	---	---	---	---	---	---	1
FAP	GSX-1R	Seepage Extraction Well	---	---	---	---	---	X	---	X	---	---	---	---	---	2
FAP	Hunt B	Seepage Extraction Well	---	---	---	X	---	---	---	---	---	---	---	---	---	1
Analyzed Constituents			*Select App III and App IV Constituents*	---	*Select App IV Constituents*	*App III, App IV and Additional Constituents*	---	*Select App III, App IV and Additional Constituents*	---	*Select App III, App IV and Additional Constituents*	---	*App III, App IV and Additional Constituents*	---	---	---	**Total Samples: 49**

Notes and Abbreviations:

(a) Background well for both the BAP and FAP.

(b) Well scheduled for monitoring but not monitored.

(c) Totals exclude field duplicate samples.

(d) Well abandoned in 2021.

Table 3-3
Aquifer Properties and Groundwater Flow Calculations

CCR Unit (Wells Used in Calculations)	Estimated Hydraulic Conductivity [ft/d]	Estimated Effective Porosity	Monitoring Event	Calculated Hydraulic Gradient [ft/ft]	Calculated Groundwater Flow Direction [degrees from North]	Estimated Groundwater Flow Rate [ft/d]
BAP (M-52A, M-53A, W-301, W-302, W-304, W-306, W-307[1],W-307R[2]	0.96[a]	0.13[a]	April 2021	0.015	185	0.11
			October 2021	0.015	185	0.11
FAP (M-50A, M-51A, W-123[1], W-123R[2], W-126[1], W-126R[2], MW-65A, MW-66A, MW-67A)	3.98[b]	0.13[a]	April 2021	0.021	241	0.65
			October 2021	0.020	236	0.61
SEDI (MW-56A, MW-58A, MW-62A)	66[a]	0.13[a]	April 2021	0.00074	261	0.38
			October 2021	0.00081	254	0.41
BAM (M-54, M-59, M61)	31[a]	0.15[a]	April 2021	0.0085	358	1.8
			October 2021	0.0088	359	1.8

Abbreviations:

BAM - Bottom Ash Monofill
BAP - Bottom Ash Pond
CCR - Coal Combustion Residuals
d - day
FAP - Fly Ash Pond
ft - feet
SEDI - Sedimentation Pond

References:

[a] Montgomery & Associates, 2018. *Annual Groundwater Monitoring and Corrective Action Report for Cholla Power Plant Coal Combustion Residuals Program, November 2015 - December 2017* . Navajo County, Arizona. Document # CH_GW_ANCAR_020_20180131. January 30, 2018.

[b] Wood Environment & Infrastructure Solutions, Inc., 2021

Notes:

[1] W-307, W-123 and W-126 used in groundwater gradient calculations for April 2021
[2] W-307R, W-123R and W-126R used in groundwater gradient calculations for October 2021

Table 4-1
Total Site Mass Removed Appendix IV Constituents

Total Mass Removed (tons)			**1.1**	
Total Volume Pumped (gallons)			**29,358,134**	
Year	**2021**			
Constituent	**BAP (lbs/yr)**	**FAP (lbs/yr)**	**Total (lbs/yr)**	**Aquifer Tests (lbs)**
Fluoride	994	952	1,946	1
Antimony	0	0	0	0.00
Arsenic	1	5	5	0.00
Barium	7	1	8	0.01
Beryllium	0	0	0	0.00
Cadmium	0	0	0	0.00
Chromium	43	1	44	0.00
Cobalt	5	0	5	0.03
Lead	3	2	5	0.00
Lithium	77	109	186	0.16
Mercury	0	0	0	0.00
Molybdenum	21	27	48	0.03
Selenium	1	0	1	0.00
Total (lb/yr)	**1,151**	**1,098**	**2,248**	**0.9**
Total (tons)	**0.6**	**0.5**	**1.1**	**0.0005**

Table 4-2
Individual Site Chemistry and Flow Volumes

Source Area		BAP												FAP		
Well/Seep		Toe Drain			Petroglyph			TWX Area			Tanner Wash			Geronimo/Hunt Combo		
	Flow (gpd)[1]	7,619			5,040			35,248			51,443			11,509		
	Analyte	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr	mg/L	lb/day	lb/yr
Appendix III	Fluoride	3.20	0.20	74	3.60	0.15	55	2.49	0.73	268	3.80	1.63	596	6.07	2.61	952
Appendix IV	Antimony	0.002	0.0001	0.05	0.00	0.0000	0.005	0.00	0.0004	0.14	0.00	0.0005	0.17	0.00	0.0004	0.13
	Arsenic	0.002	0.0001	0.05	0.00	0.0001	0.05	0.00	0.0009	0.33	0.00	0.0009	0.32	0.03	0.0130	4.73
	Barium	0.01	0.0007	0.27	0.01	0.0003	0.11	0.01	0.0034	1.26	0.03	0.0142	5.19	0.01	0.0036	1.32
	Beryllium	0.001	0.0001	0.02	0.00	0.0000	0.02	0.00	0.0003	0.11	0.00	0.0004	0.16	0.00	0.0004	0.16
	Cadmium	0.000	0.0000	0.01	0.00	0.0000	0.003	0.00	0.0002	0.08	0.00	0.0001	0.05	0.00	0.0001	0.03
	Chromium	0.001	0.0001	0.03	0.00	0.0001	0.04	0.39	0.1150	42.0	0.01	0.0027	0.97	0.01	0.0021	0.78
	Cobalt	0.01	0.0006	0.23	0.02	0.0008	0.29	0.01	0.0043	1.56	0.02	0.0069	2.51	0.00	0.0011	0.39
	Lead	0.01	0.0006	0.23	0.00	0.0000	0.02	0.00	0.0008	0.31	0.01	0.0055	2.01	0.01	0.0062	2.25
	Lithium	0.23	0.0146	5.34	0.20	0.0082	3.00	0.27	0.0788	28.8	0.25	0.1089	39.7	0.69	0.2980	109
	Mercury	0.000	0.0000	0.005	0.00	0.0000	0.003	0.00	0.0001	0.02	0.00	0.0001	0.03	0.00	0.0001	0.03
	Molybdenum	0.03	0.0018	0.65	0.03	0.0013	0.48	0.09	0.0255	9.31	0.06	0.0276	10.09	0.17	0.0741	27.0
	Selenium	0.002	0.0001	0.03	0.00	0.0001	0.02	0.00	0.0008	0.29	0.00	0.0005	0.19	0.00	0.0008	0.30
	Thallium	0.000	0.0000	0.005	0.00	0.0000	0.002	0.00	0.0001	0.03	0.00	0.0000	0.02	0.00	0.0001	0.03
	Total (lbs)			***81.3***			***59.4***			***351.8***			***657.5***			***1,098***

Source Area		AQUIFER TESTS (pumping well)													
Well/Seep		W-307R		MW-79A		BSX-01		BSX-02		BSX-03		BSX-04		GSX-1R	
	Flow (gpd)[1]	43,200		8,640		21,600		900		1,355		720		1,110	
	Analyte	mg/L	lb/test	mg/L	lb/test	mg/L	lb/test	mg/L	lb/test	mg/L	lb/test	mg/L	lb/test	mg/L	lb/test
Appendix III	Fluoride	0.560	0.202	0.540	0.039	2.100	0.379	0.850	0.006	2.900	0.033	0.99	0.006	2.58	0.024
Appendix IV	Antimony	0.002	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Arsenic	0.002	0.001	0.002	0.000	0.002	0.000	0.002	0.000	0.003	0.000	0.00	0.000	0.01	0.000
	Barium	0.028	0.010	0.000	0.000	0.018	0.003	0.014	0.000	0.017	0.000	0.01	0.000	0.01	0.000
	Beryllium	0.001	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Cadmium	0.001	0.000	0.000	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Chromium	0.011	0.004	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Cobalt	0.072	0.026	0.008	0.001	0.013	0.002	0.024	0.000	0.039	0.000	0.03	0.000	0.00	0.000
	Lead	0.001	0.000	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Lithium	0.280	0.101	0.140	0.010	0.225	0.041	0.230	0.002	0.210	0.002	0.23	0.001	0.52	0.005
	Mercury	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.00	0.000
	Molybdenum	0.027	0.010	0.100	0.007	0.058	0.010	0.053	0.000	0.062	0.001	0.04	0.000	0.61	0.006
	Selenium	0.002	0.001	0.000	0.000	0.001	0.000	0.001	0.000	0.001	0.000	0.00	0.000	0.00	0.000
	Thallium	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.00	0.000	0.00	0.000
	Total (lbs)		***0.36***		***0.06***		***0.44***		***0.01***		***0.04***		***0.01***		***0.03***

Notes:

1) Flow is in average gallong per day (gpd) except for the aquifer test data which is in gallons pumped over the entire test length which varied from 7.5 hours to 36 hours.

lbs pound

mg/L milligrams per liter

yr year

Figures

Job No.	14-2021-2008
PM:	MBH
Date:	1/5/2022
Scale:	1" = 1.5 miles

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infastructure Solutions, Inc. Project Number 14-2021-2008. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood Environment & Infrastructure Solutions, Inc. assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

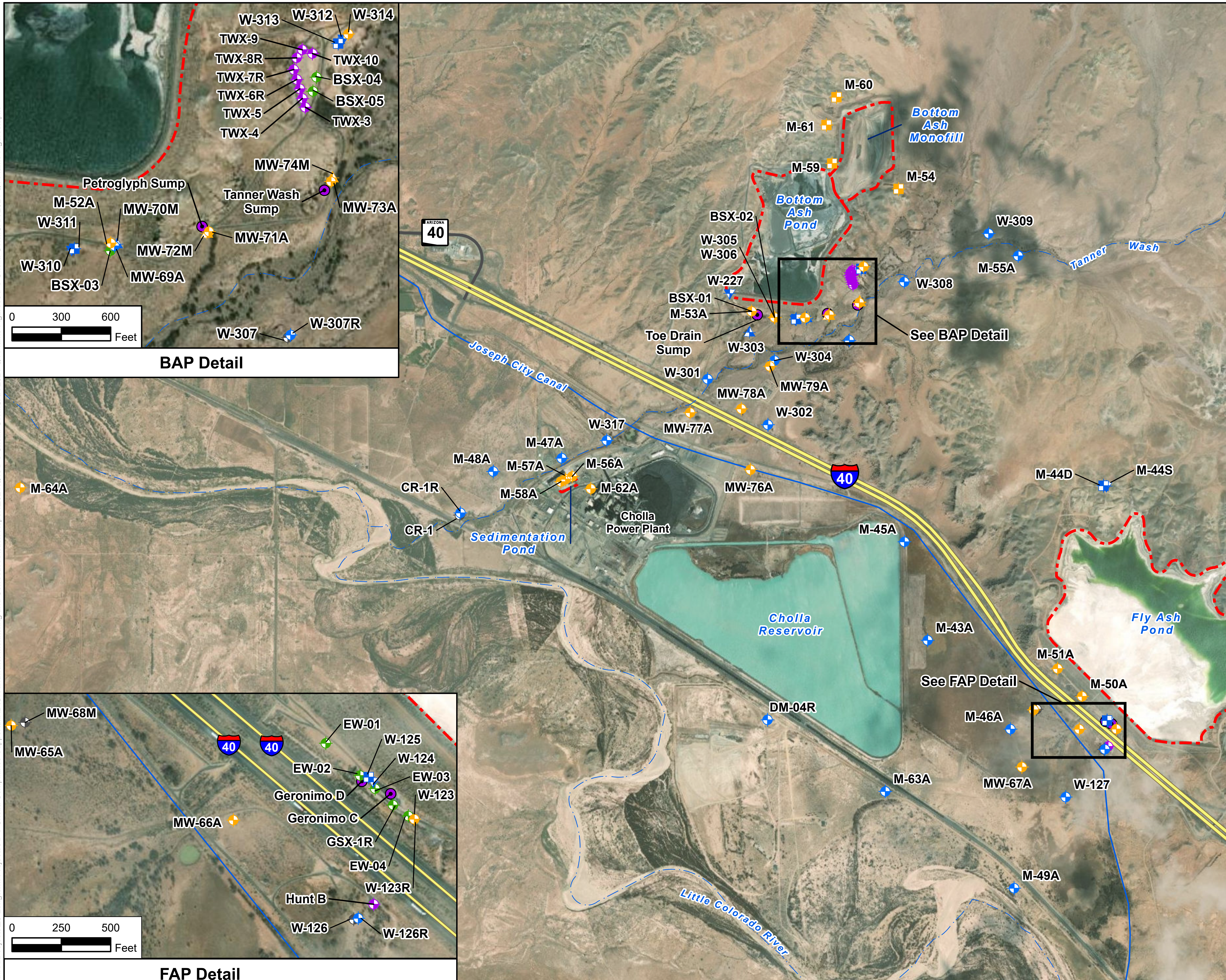
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Site Location Map

FIGURE
1-1

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2021Q4\Figure1-1_SiteLocationMap.mxd



State Overview

Legend

CCR Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well

Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well

Other Features
- Abandoned Well
- Extraction Well
- Sump
- Ephemeral Surface Water Feature
- Canal
- Approximate Extent of CCR Unit

0 1,000 2,000 Feet

N

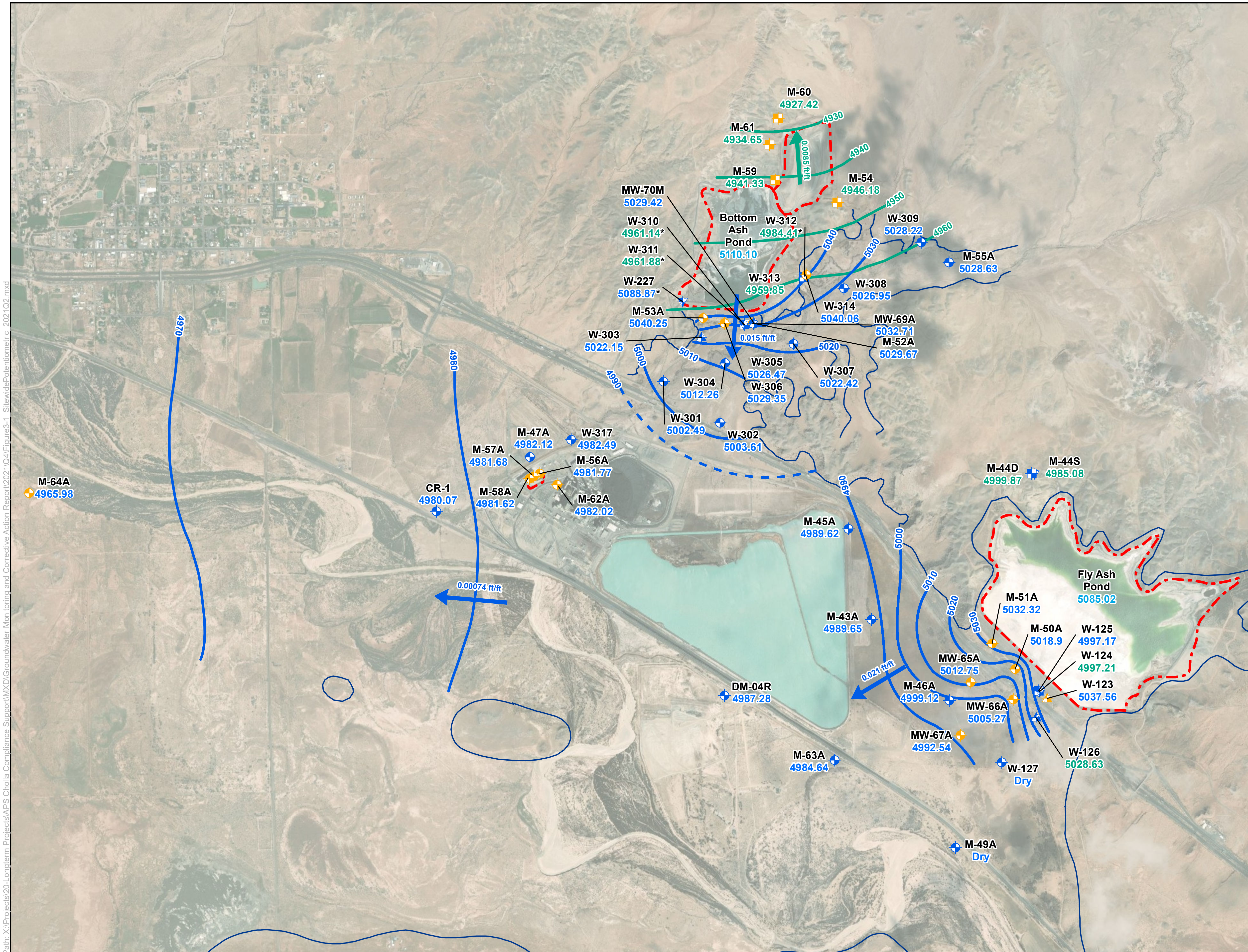
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

FIGURE **1-2**

CCR Units and Groundwater Monitoring System Summary Map

Job No. 14-2021-2008
PM: MBH
Date: 1/28/2022
Scale: 1"= 2,000'

wood.



Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- C-Aquifer Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
- Groundwater Elevation Contour (ft amsl) C-Aquifer
- Groundwater Flow Direction
- Extent of Alluvial Material
- Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A	Well Identification
5012.76	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl)
4999.87	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Water Elevation
*	Well not used in potentiometric surface mapping
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals

0 700 1,400 2,100
Feet

N

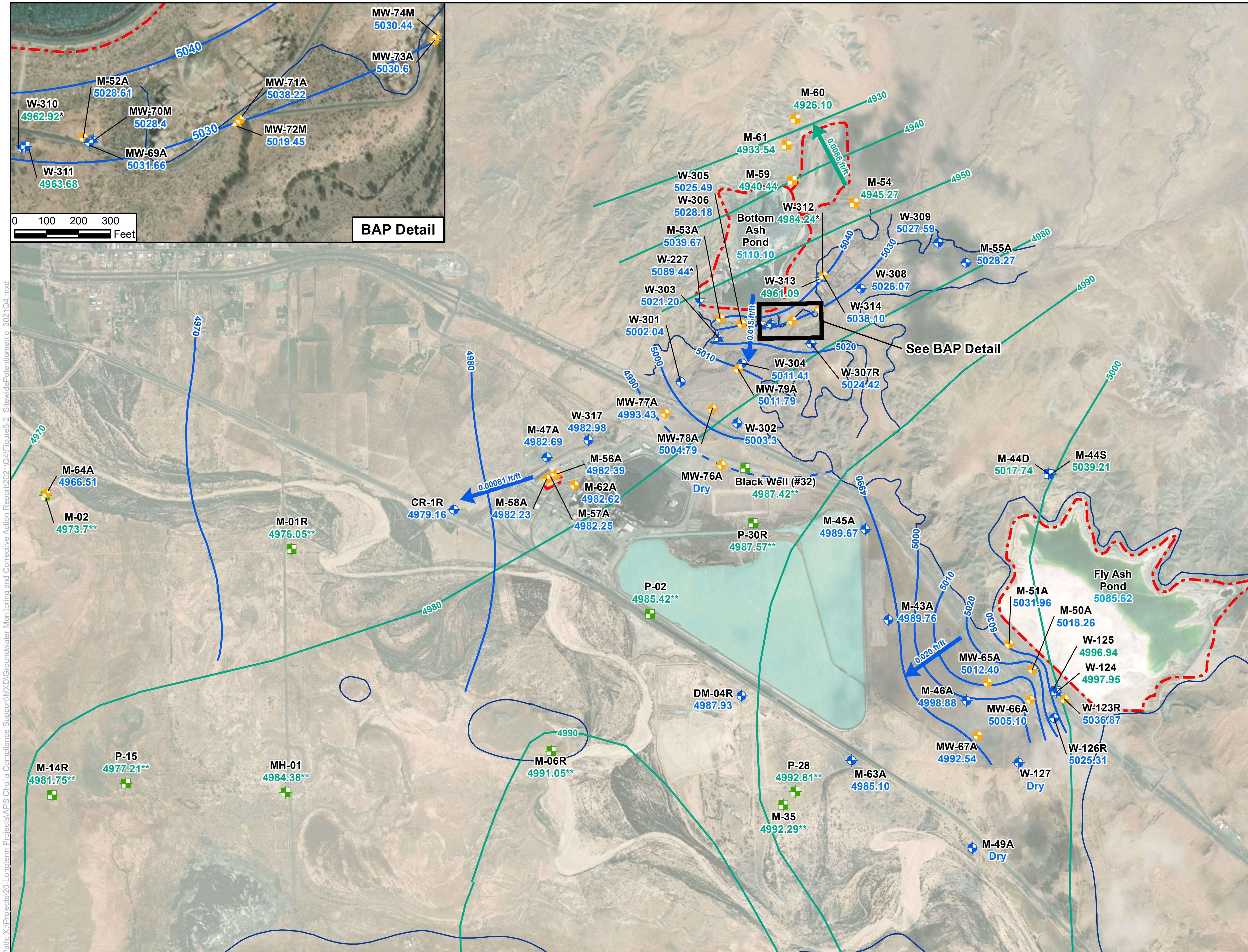
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 3-1

Potentiometric Surface Map April 2021

Job No. 14-2021-2008
PM: MBH
Date: 1/28/2022
Scale: 1"= 2,100'

wood.



Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- C-Aquifer Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well

Other Features

- C-Aquifer Supplementary Well
- Groundwater Elevation Contour (ft amsl) Alluvial Aquifer; dashed where inferred
- Groundwater Elevation Contour (ft amsl) C-Aquifer**
- Groundwater Flow Direction
- Extent of Alluvial Material
- Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A	Well Identification
5027.86	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl)
4945.27	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Surface Water Elevation
*	Well not used in potentiometric surface mapping
**	C-Aquifer contours and groundwater elevations provided by Montgomery & Associates
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals

0 1,050 2,100 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 3-2

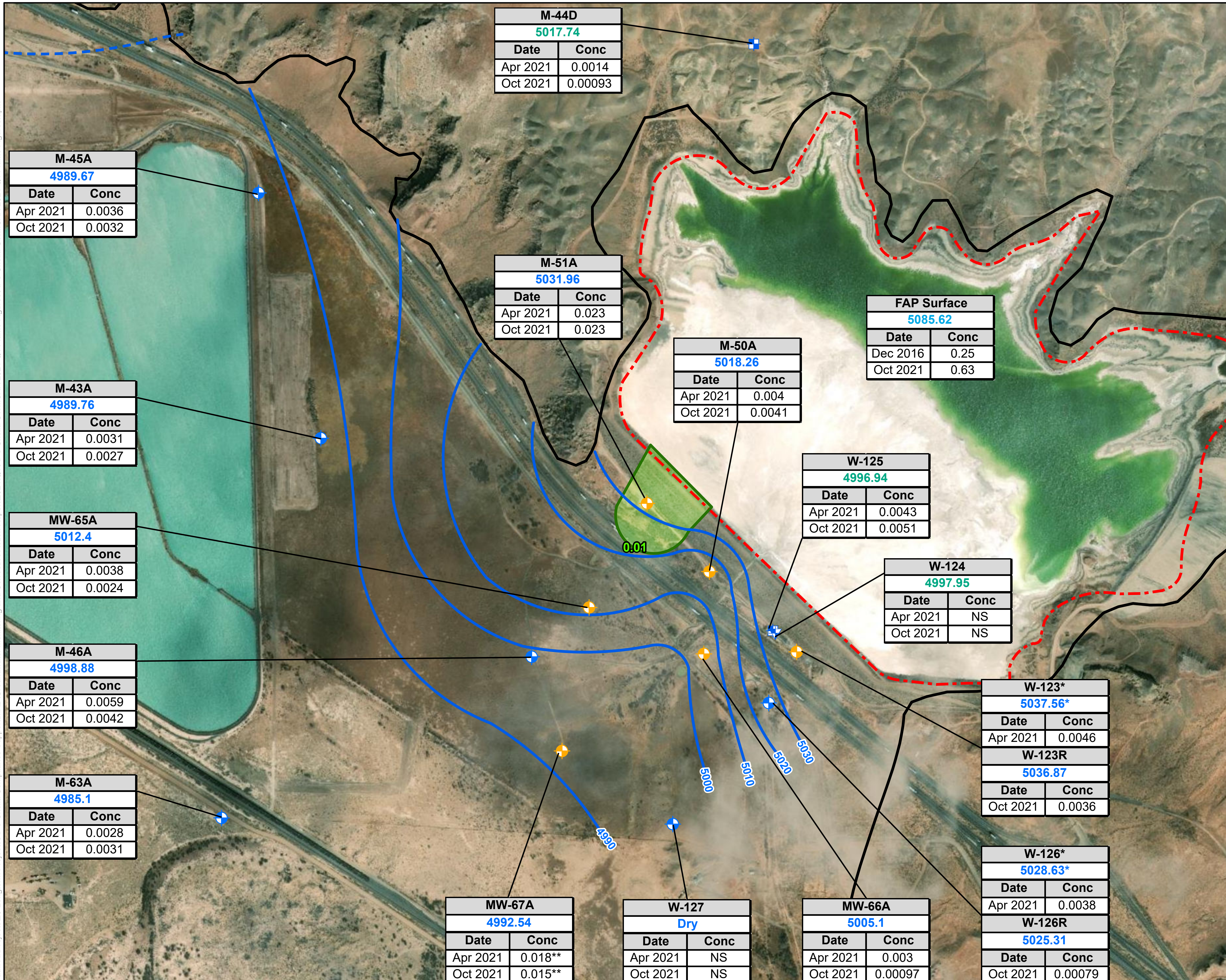
Potentiometric Surface Map October 2021

Job No.	14-2021-2008
PM:	MBH
Date:	1/28/2022
Scale:	1"= 2,100'

wood.

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Project Number 14-2021-2008. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2021Q4\Figure3-2_SitewidePotentiometric_2021Q4.mxd



Legend

CCR Monitoring Well Location
- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well
- Estimated Alluvial Extent
- Approximate Extent of CCR Unit

Alluvial Aquifer Potentiometric Surface (October 2021)
- Groundwater Elevation (Dashed Where Inferred)

Arsenic Concentration in Groundwater (October 2021)
- >0.01 mg/L
- GWPS (0.01 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-43A	Well Identification
4989.76	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
4997.95	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Surface Water Elevation
*	Well abandoned after 2021 Q2
*	2021 Q2 Groundwater Level, not used in 2021 Q4 potentiometric surface mapping
**	Elevated concentration attributed to natural dissolution of Arsenic from aquifer materials. See: Evaluation of Groundwater Redox Conditions at the FAP (Wood, 2021b).
0.0031	Arsenic concentration (mg/L)
NS	Not Sampled
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 Feet

N

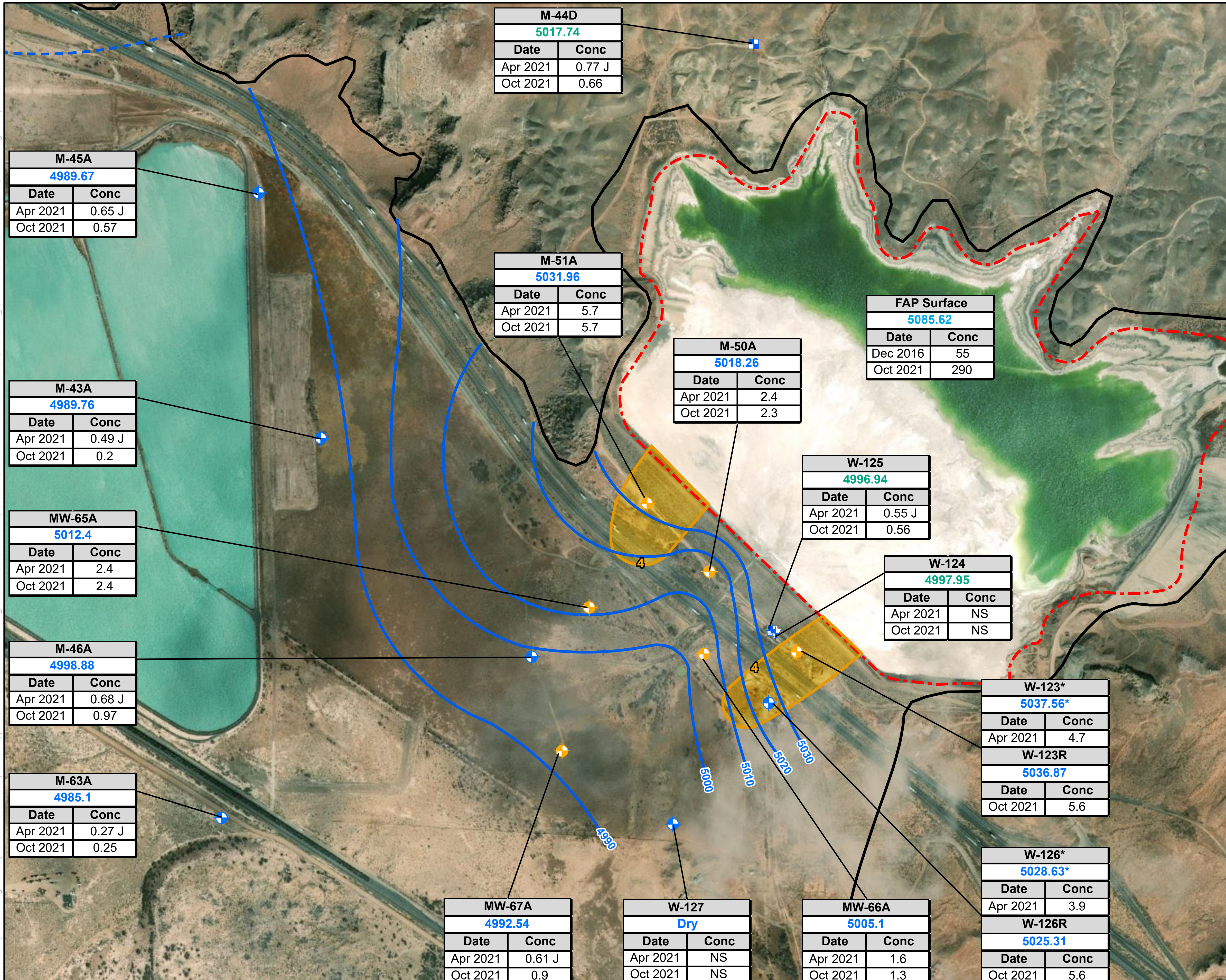
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 4-1

Arsenic Iso-Concentration Map for the Fly Ash Pond

Job No. 14-2021-2008
PM: MBH
Date: 1/27/2022
Scale: 1"= 800'

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2021\Q4\APS Cholla GWMCAR 2021 Q4 Plume Figures\APS Cholla GWMCAR 2021 Q4 Plume Figures.aprx



Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well
- Estimated Alluvial Extent
- Approximate Extent of CCR Unit

Alluvial Aquifer Potentiometric Surface (October 2021)

- Groundwater Elevation (Dashed Where Inferred)

Fluoride Concentration in Alluvial Aquifer (October 2021)

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

Notes and Abbreviations:

M-43A	Well Identification
4989.76	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
4997.95	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Surface Water Elevation
*	Well abandoned after 2021 Q2
*	2021 Q2 Groundwater Level, not used in 2021 Q4 potentiometric surface mapping
0.49	Fluoride concentration (mg/L)
J	Result is estimated quantity
NS	Not Sampled
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

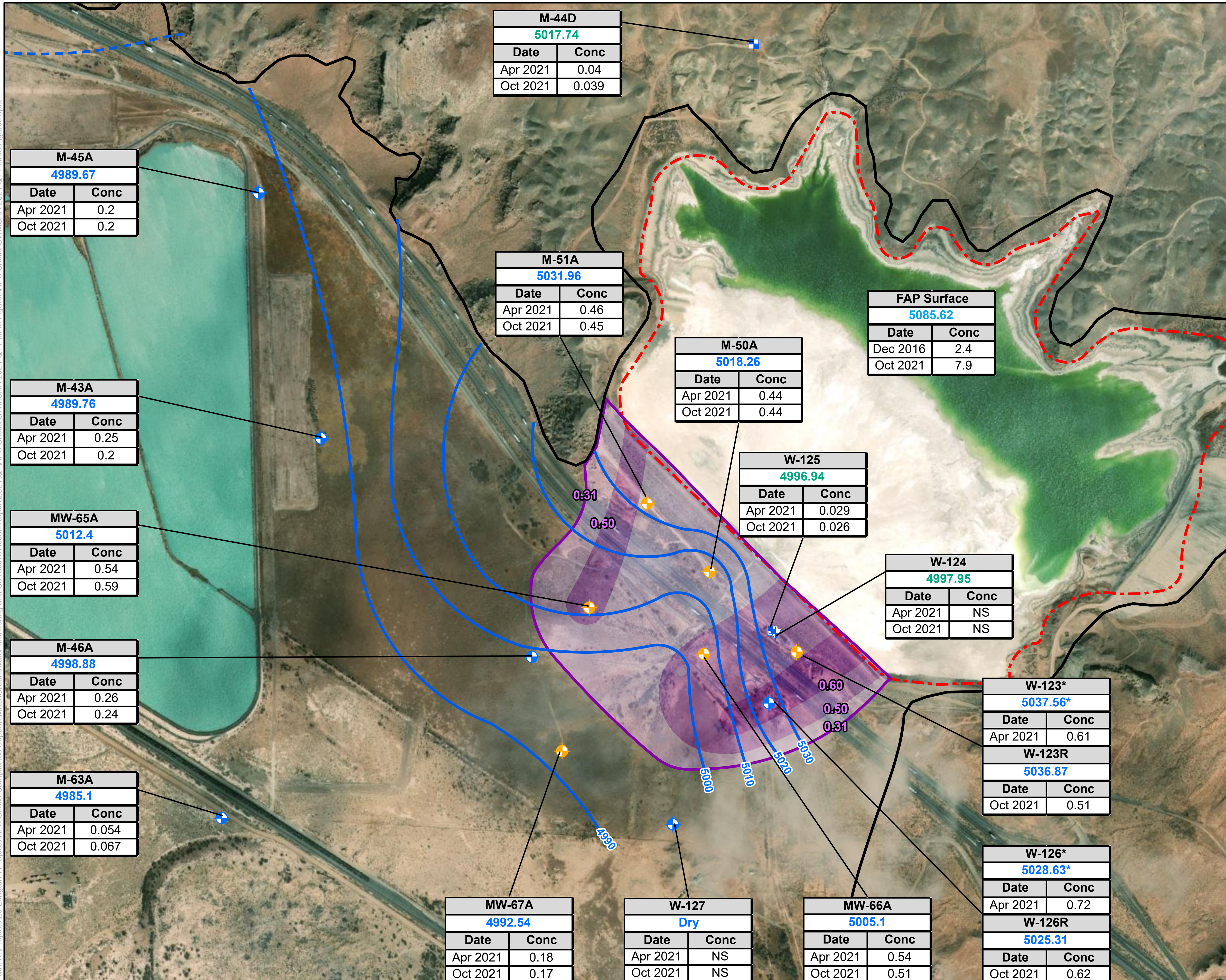
Figure 4-2

Fluoride Iso-Concentration Map for the Fly Ash Pond

Job No.	14-2021-2008
PM:	MBH
Date:	1/7/2022
Scale:	1"= 800'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2021\Q4\APS Cholla GWMCAR 2021 Q4 Plume Figures\APS Cholla GWMCAR 2021 Q4 Plume Figures.aprx



Legend

CCR Monitoring Well Location

Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

Alluvial Monitoring Well

Moenkopi Formation (Wupatki Member) Monitoring Well

C-Aquifer Monitoring Well

Estimated Alluvial Extent

Approximate Extent of CCR Unit

Alluvial Aquifer Potentiometric Surface (October 2021)

Groundwater Elevation (Dashed Where Inferred)

Lithium Concentration in Alluvial Aquifer (October 2021)

> 0.31 mg/L

> 0.50 mg/L

> 0.60 mg/L

GWPS (0.31 mg/L; Dashed Where Inferred)

Notes and Abbreviations:

M-43A	Well Identification
4989.76	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
4997.95	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Surface Water Elevation
*	Well abandoned after 2021 Q2
*	2021 Q2 Groundwater Level, not used in 2021 Q4 potentiometric surface mapping
0.25	Lithium concentration (mg/L)
NS	Not Sampled
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800
Feet

N

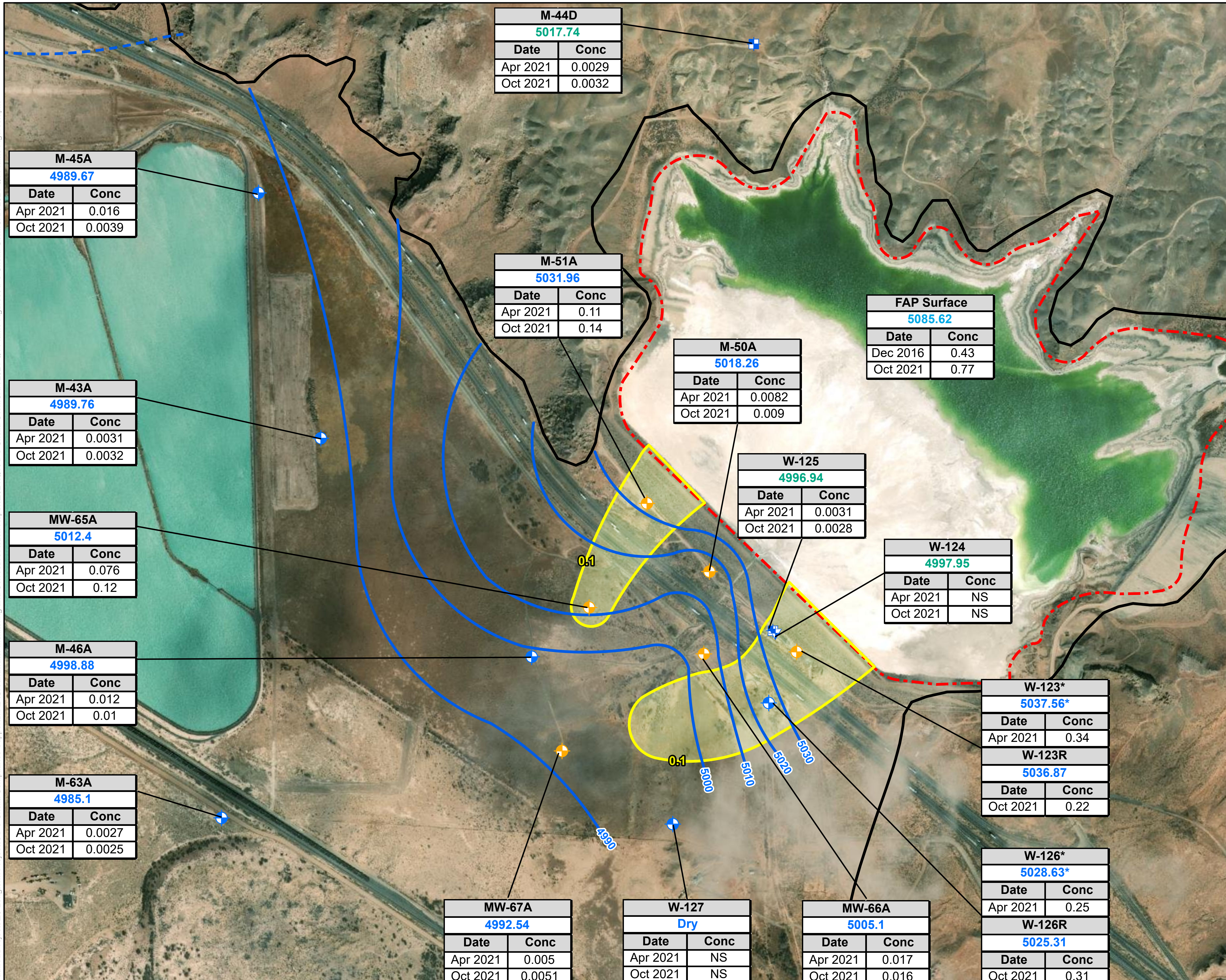
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 4-3

Lithium Iso-Concentration Map for the Fly Ash Pond

Job No. 14-2021-2008
PM: MBH
Date: 1/7/2022
Scale: 1"= 800'

wood.



Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well
- Estimated Alluvial Extent
- Approximate Extent of CCR Unit

Alluvial Aquifer Potentiometric Surface (October 2021)

- Groundwater Elevation (Dashed Where Inferred)

Molybdenum Concentration in Alluvial Aquifer (October 2021)

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

Notes and Abbreviations:

M-43A	Well Identification
4989.76	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
4997.95	C-Aquifer/Moenkopi Wupatki Groundwater Elevation (ft amsl)
5110.0	CCR Surface Water Elevation
*	Well abandoned after 2021 Q2
*	2021 Q2 Groundwater Level, not used in 2021 Q4 potentiometric surface mapping
0.0031	Molybdenum concentration (mg/L)
NS	Not Sampled
ft amsl	Feet above mean sea level
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

0 400 800 Feet

N

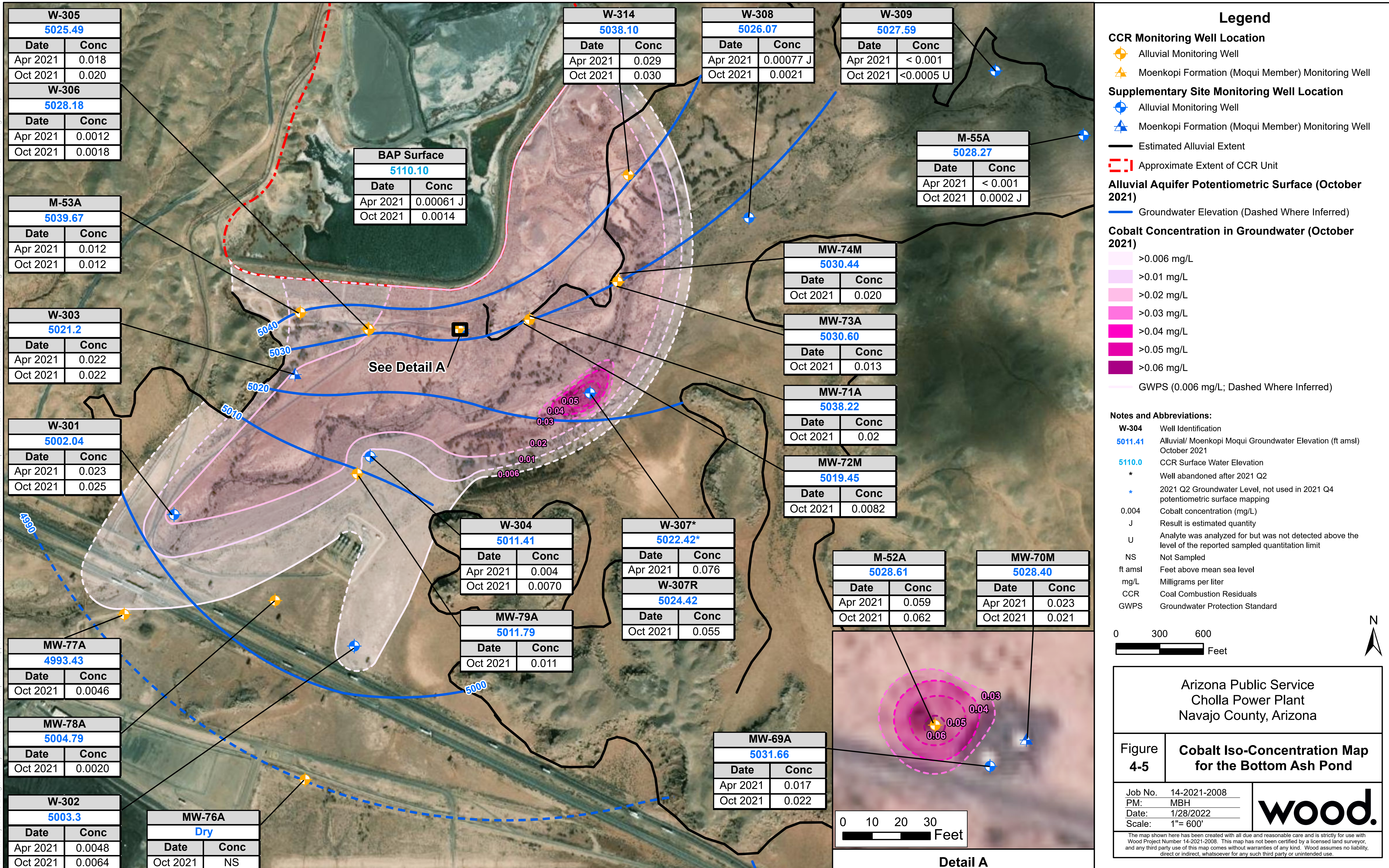
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 4-4

Molybdenum Iso-Concentration Map for the Fly Ash Pond

Job No.	14-2021-2008
PM:	MBH
Date:	1/6/2022
Scale:	1"= 800'

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Groundwater Monitoring and Corrective Action Report\2021\Q4\APS Cholla GWMCAR 2021 Q4 Plume Figures\APS Cholla GWMCAR 2021 Q4 Plume Figures.aprx



W-305
5025.49
Date | Conc
Apr 2021 | 0.018
Oct 2021 | 0.020
W-306
5028.18
Date | Conc
Apr 2021 | 0.0012
Oct 2021 | 0.0018
M-53A
5039.67
Date | Conc
Apr 2021 | 0.012
Oct 2021 | 0.012
W-303
5021.2
Date | Conc
Apr 2021 | 0.022
Oct 2021 | 0.022
W-301
5002.04
Date | Conc
Apr 2021 | 0.023
Oct 2021 | 0.025
MW-77A
4993.43
Date | Conc
Oct 2021 | 0.0046
MW-78A
5004.79
Date | Conc
Oct 2021 | 0.0020
W-302
5003.3
Date | Conc
Apr 2021 | 0.0048
Oct 2021 | 0.0064
MW-76A
Dry
Date | Conc
Oct 2021 | NS
BAP Surface
5110.10
Date | Conc
Apr 2021 | 0.00061 J
Oct 2021 | 0.0014
W-314
5038.10
Date | Conc
Apr 2021 | 0.029
Oct 2021 | 0.030
W-308
5026.07
Date | Conc
Apr 2021 | 0.00077 J
Oct 2021 | 0.0021
W-309
5027.59
Date | Conc
Apr 2021 | < 0.001
Oct 2021 | <0.0005 U
M-55A
5028.27
Date | Conc
Apr 2021 | < 0.001
Oct 2021 | 0.0002 J
MW-74M
5030.44
Date | Conc
Oct 2021 | 0.020
MW-73A
5030.60
Date | Conc
Oct 2021 | 0.013
MW-71A
5038.22
Date | Conc
Oct 2021 | 0.02
MW-72M
5019.45
Date | Conc
Oct 2021 | 0.0082
W-304
5011.41
Date | Conc
Apr 2021 | 0.004
Oct 2021 | 0.0070
MW-79A
5011.79
Date | Conc
Oct 2021 | 0.011
W-307*
5022.42*
Date | Conc
Apr 2021 | 0.076
W-307R
5024.42
Date | Conc
Oct 2021 | 0.055
M-52A
5028.61
Date | Conc
Apr 2021 | 0.059
Oct 2021 | 0.062
MW-70M
5028.40
Date | Conc
Apr 2021 | 0.023
Oct 2021 | 0.021
MW-69A
5031.66
Date | Conc
Apr 2021 | 0.017
Oct 2021 | 0.022
See Detail A
5040
5030
5020
5010
5000
4990
0.05
0.04
0.03
0.02
0.01
0.006
0.03
0.04
0.05
0.06
0 10 20 30
Feet
Detail A
Legend
CCR Monitoring Well Location
Alluvial Monitoring Well
Moenkopi Formation (Moqui Member) Monitoring Well
Supplementary Site Monitoring Well Location
Alluvial Monitoring Well
Moenkopi Formation (Moqui Member) Monitoring Well
Estimated Alluvial Extent
Approximate Extent of CCR Unit
Alluvial Aquifer Potentiometric Surface (October 2021)
Groundwater Elevation (Dashed Where Inferred)
Cobalt Concentration in Groundwater (October 2021)
>0.006 mg/L
>0.01 mg/L
>0.02 mg/L
>0.03 mg/L
>0.04 mg/L
>0.05 mg/L
>0.06 mg/L
GWPS (0.006 mg/L; Dashed Where Inferred)
Notes and Abbreviations:
W-304 Well Identification
5011.41 Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
5110.0 CCR Surface Water Elevation
* Well abandoned after 2021 Q2
* 2021 Q2 Groundwater Level, not used in 2021 Q4 potentiometric surface mapping
0.004 Cobalt concentration (mg/L)
J Result is estimated quantity
U Analyte was analyzed for but was not detected above the level of the reported sampled quantitation limit
NS Not Sampled
ft amsl Feet above mean sea level
mg/L Milligrams per liter
CCR Coal Combustion Residuals
GWPS Groundwater Protection Standard
0 300 600
Feet
N
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona
Figure
4-5
Cobalt Iso-Concentration Map
for the Bottom Ash Pond
Job No. 14-2021-2008
PM: MBH
Date: 1/28/2022
Scale: 1"= 600'
wood.
The map shown here has been created with all due and reasonable care and is strictly for use with Wood Project Number 14-2021-2008. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Appendix A

Well Completion Report Abandonment and Replacement Program

Well Completion Report

Abandonment and Replacement Well Program
Cholla Power Plant
Navajo County, Arizona
Project # 14-2021-2011

Registered Professional Engineer (Civil)
CERTIFICATE NO.
54953
REBECCA A.
WEAVER
01/18/2022
DATE SIGNED
ARIZONA U.S.A.

Prepared for:

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

January 18, 2022

Well Completion Report

Abandonment and Replacement Well Program
Cholla Power Plant
Navajo County, Arizona
Project # 14-2021-2011

Prepared for:

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

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100

January 18, 2022

Certification Statement

I, Rebecca A. Weaver, as a qualified groundwater scientist and professional engineer have reviewed the Wood Report titled *Well Completion Report, Abandonment and Replacement Well Program*, Cholla Power Plant, Navajo County Arizona, Project # 14-2021-2011 dated January 18, 2022. I certify that the groundwater monitoring system components that are documented in this report have been designed and constructed for the Arizona Public Service Company Cholla Power Plant as required for compliance with coal combustion residuals (CCR) groundwater monitoring and corrective action requirements detailed in 40 Code of Federal Regulations (CFR) Part 257.

Signed:

Dated: January 18, 2022

Registered Professional Engineer (Civil)
CERTIFICATE NO.
54953
REBECCA A.
WEAVER
01/18/2022
DATE SIGNED
ARIZONA U.S.A.

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Acronyms and Abbreviations

ADWR	Arizona Department of Water Resources
APS	Arizona Public Service Company
b	aquifer thickness
BAP	Bottom Ash Pond
bgs	below ground surface
BLM	US Bureau of Land Management
Boart	Boart Longyear Company
CCR	coal combustion residuals
CM	corrective measures
CSM	conceptual site model
d	day
FAP	Fly Ash Pond
ft	foot, feet
gpd	gallons per day
gpm	gallons per minute
GWPS	groundwater protection standard
HP	horsepower
in	inch
k	hydraulic conductivity
kr	radial conductivity
kz	vertical conductivity
LCR	Little Colorado River
NOI	Notice of Intent to Drill
NOIA	Notice of Intent to Abandon
NTU	nephelometric units
%	percent
PVC	polyvinyl chloride
lb	pound
SCH	schedule
SEDI	Sedimentation Pond
SSI	statistically significant increase
swl	static water level
T	transmissivity
Wood	Wood Environment & Infrastructure Solutions, Inc.

1.0 Introduction

Wood Environment & Infrastructure Solutions, Inc. (Wood) prepared this Well Completion Report to document the abandonment, installation, development, and aquifer testing of select wells at the Cholla Power Plant (the plant or the Site) in Navajo County, Arizona for Arizona Public Service Company (APS). The Abandonment and Replacement Program was developed to address extraction wells, monitoring wells, and piezometers at the Site that were not performing or collected data as intended when they were installed. Near the Fly Ash Pond (FAP), extraction wells Geronimo-A (GSX-1) and Geronimo-B (GSX-2) were abandoned and replaced with a single extraction well designated GSX-1R; monitoring wells W-123 and W-126 were abandoned and replaced with new monitoring wells designated W-123R and W-126R; piezometers F-111, F-91, and F-92 were abandoned and replaced with new piezometers designated F-111R, F-91R, and F-92R. Near the Sedimentation Pond (SEDI), monitoring well CR-1 was abandoned and replaced with a new monitoring well designated CR-1R. Near the Bottom Ash Pond (BAP), monitoring well W-307 was abandoned and replaced with new monitoring well designated W-307R.

1.1 Site Description

The Site is located north of the Little Colorado River in the Middle Little Colorado River watershed (Montgomery & Associates 2011, Montgomery & Associates 2017, AMEC 2012). Detailed facility descriptions are included in the referenced reports including the status of each unit. Currently the SEDI is in assessment monitoring, and the FAP and BAP are in corrective action status. The facilities and overview of the monitoring system is shown on Figure 1.

The relevant hydrostratigraphic units that are of interest for the wells and piezometers installed in this project include the alluvial aquifer for Tanner Wash and the Little Colorado River (LCR) and Wupatki and Moqui members of the Moenkopi Formation. Detailed descriptions of these hydrostratigraphic units are included in Wood, 2020b and Wood, 2021a. The alluvium in the area of interest is unconsolidated, heterogenous and consists of clay, silt, sand and gravel. The Moqui is comprised of pale brown to reddish-brown gypsiferous mudstone and siltstone beds with thin bands of green-grey and dark yellow siltstone. The Wupatki is comprised of thin bedded siltstone with some interbedded sandstone and mudstone, especially at the base of the unit (Wood 2020a).

1.2 Purpose and Objectives

The Abandonment and Replacement Program included several different well types with different functions. The purpose and objectives for replacing each well varied. The following sections describe the purpose and objectives for replacing each well or well grouping.

1.2.1 Screened Across Units or Cross-Contamination

In December 2020, APS installed four alluvial extraction wells (EW-01, EW-02, EW-03, EW-04) downgradient of the FAP (Wood 2021b). Extraction well EW-04, which was installed approximately 20 feet (ft) east of W-123, encountered the Moqui member of the Moenkopi Formation (Moqui) at 19 ft below ground surface (bgs). W-123 was screened from 14 to 29 ft bgs and W-126 was screened from 15 to 45 ft bgs. It was concluded the screens for these monitoring wells were completed across alluvium and the Moqui. The well logs for EW-01 through 04 are included in Appendix A and a summary of their construction information is included in Table 1. The Moqui was observed to be dry at EW-04, and groundwater was encountered in the overlying alluvium. It is likely these saturated conditions are similar at the locations of W-123 and W-126. The purpose of replacing W-123 and W-126 was to install monitoring wells screened in the alluvium to prevent the migration of groundwater in the alluvium into the Moqui. The locations of EW-01 through EW-04, W-123, W-123R, W-126, and W-126R are shown in Figure 2.

Piezometer F-91 was screened from 56 to 76 ft bgs across the contact between the Moqui and underlying Wupatki member of the Moenkopi Formation (Wupatki). Water levels monitored at F-91 during the aquifer tests of the new FAP extraction wells (EW-01 through EW-04) indicate some water level drawdown occurred at this piezometer during the EW-02 and EW-03 aquifer tests (Wood 2021b, Figure 8). As the new extraction wells were installed in alluvium, it is likely the drawdown at F-91 was due to a faulty annular seal and created a hydraulic connection between the alluvium and the underlying formations at this piezometer. The purpose of replacing F-91 was to install a piezometer screened only in the Wupatki. Additionally, the replacement piezometer (F-91R) was installed using a "telescoped" well seal to prevent the downward migration of alluvial groundwater into the underlying Moqui and Wupatki. Locations of F-91, EW-02, EW-03, and F-91R are shown in Figure 2.

1.2.2 Performance

An evaluation of the FAP Geronimo seepage intercept system indicated extraction wells GSX-1 and GSX-2 were inconsistent in operation, had relatively low extraction rates and erratic water levels. These performance issues were likely caused by the clogging of the extraction well screens (Wood, 2021d). The extraction well 0.010 inch (in) screen slot size was concluded to be inappropriate for the fine-grained alluvial sediments in which the wells were screened, and the well screens and/or filter packs may have become clogged by fine-grained sediments over time. The purpose of replacing both GSX-1 and GSX-2 was to install an extraction well with more appropriate screen size for the local alluvial sediments that would facilitate improved performance. It was decided to replace two extraction wells with a single extraction well (GSX-1R) since four additional extraction wells had been recently installed in the area (EW-01, EW-02, EW-03), and EW-04. The locations of GXS-1, GSX-2, GSX-1R, and EW-01 through EW-04 are shown in Figure 2.

Monitoring well W-307 was replaced because it is relatively older (installed in 1984), and samples collected during CCR monitoring events may not be accurately representative of groundwater conditions in the area. APS requested the abandonment and replacement of W-307 and it was replaced with W-307R. Location of W-307 and well W-307R are both shown in Figure 3.

1.2.3 Blockage, Damaged, or Non-Responsive

During various groundwater monitoring field activities, Wood field personnel observed a blockage in piezometer F-92 at approximately 23 ft bgs. Additionally, F-92 was screened from approximately 40 to 55 ft bgs, and the new FAP extraction wells (EW-01 through EW-04) installed in December 2020 identified the Moqui at depths no greater than 50 ft bgs near the toe of the FAP dam. F-92 was replaced with a new piezometer (F-92R) clear of blockage and screened solely in the alluvium. Locations of F-92, and F-92R are shown in Figure 2.

Piezometer F-111 was screened from 26 to 46 ft bgs within alluvium and located between GSX-1 and GSX-2. F-111 had shown no response to aquifer tests conducted at the new FAP extraction wells (EW-01 through EW-04), which are screened over similar depth intervals. Wood, 2021b, Figure 8 depicts water levels monitored at F-111, GSX-1, and GSX-2 during the EW-01-04 extraction well aquifer tests. As indicated, the aquifer tests induced drawdown of water levels at GSX-1 and GSX-2; these wells were each screened from 20 to 40 ft bgs and were located approximately 15 ft northwest and southeast of F-111. However, no water level drawdown appeared to have occurred at F-111. The lack of response at F-111 suggests this piezometer was either damaged or became clogged by fine-grained sediments. F-111 was replaced with a new piezometer (F-111R) clear of blockage and screened in the alluvium. Locations of F-111, GSX-1, GSX-2, EW-01 through EW-04, and F-111R are shown in Figure 2.

SEDI monitoring well CR-1 (screened from 25-45 ft bgs) was reported by APS to have become compromised by tree roots. Replacement well CR-1R was installed approximately 40 ft to the northeast of CR-1 with a screen depth interval of 28 to 48 ft bgs, also in the alluvial aquifer. The location of CR-1R was selected to increase the distance from nearby vegetation that was likely the source of the tree roots. The locations of CR-1 and CR-1R are shown in Figure 4.

2.0 Well Installation and Abandonment Activities

This section summarizes the well installation and abandonment activities for this project. The location of the new and abandoned wells is shown on Figures 2 through 4. A photographic log showcasing abandonment and replacement activities is included in Appendix B. The lithologic logs and well construction diagrams are included as Appendix A, and Appendix C presents the final survey report for the new wells and the abandonment monuments.

2.1 Pre-mobilization Activities

Prior to site mobilization, all required Notice of Intent to Abandon a Well (NOIA) and Notice of Intent to Drill (NOI) permits were obtained from the Arizona Department of Water Resources (ADWR). Wood also updated the existing Health and Safety Plan (HASP) for the Site and ensured all Wood field personnel and subcontractors received APS Fossil Generation Contractor Safety training. Wood contracted with a licensed Arizona driller, Boart Longyear (Boart) to conduct the well drilling, construction, and abandonments. All drilling and abandonment activities were performed with a sonic drill rig. Final ADWR documentation is included in Appendix D.

2.2 Well Abandonments

Well abandonment activities took place from April 29 to May 19, 2021 for all wells except W-307 which was abandoned September 9, 2021, and were conducted within compliance of all ADWR regulations regarding well abandonment. Surface completions, including any well pad, surface casing and or vault were fully removed. The inner well casing was fully removed from each well or over-drilled the entire length of the casing where full removal from total depth of the cased portion of the well to surface was not possible. The entire length of the abandoned well borehole was filled from the bottom up to surface grade with a grout mix consisting of approximately four 50-pound (lb) bags of Type I/II/V Portland Cement to one 50 lb bag of Quik-Gel Viscosifier via tremie pipe. The grout mixture was emplaced under sufficient pressure to fill voids and displace any water within the well with the tremie pipe remaining near the rising grout surface. Table 2 summarizes the wells abandoned and their locations.

A concrete sonotube monument was then installed at the surface of each abandonment location with a brass cap affixed within the center of the monument displaying the identification of the abandoned well, Figures 2, 3, and 4 show the locations of the abandoned wells.

2.3 Replacement Well Construction

Replacement well construction generally occurred right after the existing well was abandoned. Well construction activities took place from April 29 to May 19, 2021 for all wells except W-307R, which was drilled and constructed October 4-5, 2021. Well construction details are presented in Table 1 and are included on the lithologic logs (Appendix A).

2.3.1 Replacement Well Siting

Replacement monitoring wells W-123R and W-126R were sited downgradient of the FAP and within 10 ft of their corresponding abandoned predecessor wells. Replacement extraction well GSX-1R was sited between abandoned extraction wells GSX-1 and GSX-2 near the toe of the southern edge of the FAP. Replacement piezometer F-111R was also sited within 10 ft of its abandoned predecessor piezometer near the southern edge of the FAP. Replacement piezometers F-91R and F-92R were moved to the northeast of the original locations and placed along the APS access road due to the location of overhead power lines above the abandoned well. CR-1R was located approximately 40 ft to the northeast of the original well to increase the distance from nearby salt cedar tree and other root systems. W-307R is located within 10 ft to the north of the original well such that it is within the defined easement of the site with the United States Bureau of Land Management (BLM). Figures 2, 3, and 4 show the final locations of the replacement wells.

2.3.2 Replacement Well Drilling

Utility clearance was performed by Safe Site Utility Services, LLC on April 26, 2021 for all the sites but W-307R, which was done on September 13, 2021. Hydro-excavation of some of the well locations was performed by Riley Industrial Services, Inc. to depths of approximately 6 ft bgs prior to well drilling. The sites that were hydro-evacuated included W-123R, W-126R, GSX-1R, F-111R, F-91R, and F-92R.

Replacement well drilling activities occurred between April 28 and May 16, 2021 for all of the wells except for W-307R which occurred October 4 and 5, 2021. The boreholes for monitoring wells W-123R, W-126R, CR-1R and W-307R were drilled to an 8 in diameter, the borehole for extraction well GSX-1R was drilled to a 10 in diameter, and the boreholes for piezometers F-111R and F-92R were drilled to a 6 in diameter. The borehole for piezometer F-91R was drilled to accommodate installation of a telescoping well seal. This construction included drilling from grade to 52 ft bgs with an 8 in diameter borehole and then from 52 ft to 54 ft bgs was drilled to a 7 in diameter borehole. A bentonite seal was installed and allowed to cure overnight at least 3 ft on either side of the alluvium to Moqui contact at 50ft bgs, then the rest of the borehole was constructed with a diameter of 6 in from 54 ft bgs to 88ft bgs. This telescoping well seal construction method is designed to minimize any water moving between the different lithologic units. Drilling and well construction was supervised by a Wood field representative, and continuous formation samples were logged at 2.5 ft depth intervals using the Unified Soil Classification System.

Lithology encountered during drilling of CR-1R only include alluvium (clayey sand, sandy clay, silty clayey sand, sand, and sand with silt). Lithologies encountered during drilling of the FAP replacement wells include alluvium (clay, silt, clayey sand, sandy clay, sandy silt, silty sand, sandy clay, gravel with sand and silt), thick clay lenses, weathered to competent interbedded siltstone and shale often noted with gypsum typically identified as the Moqui and Wupatki. F-91R is screened in the Wupatki member of the Moenkopi and all other wells are screened in the alluvium. Descriptions of the formation samples are recorded on the lithologic logs included in Appendix A. Photographs of the formation samples are included in Appendix B.

Groundwater was encountered during drilling at each replacement well. At replacement well CR-1R, groundwater was encountered at 37.1 ft bgs within the alluvium. At FAP replacement wells W-123R, W-126R, F-111R, F-91R, and F-92R groundwater was encountered between 2.9 and 22.5 ft bgs within the alluvium. The upper contact between the alluvium and Moqui in replacement wells W-126R and GSX-1R were also noted to be moist, with moisture decreasing to nearly dry conditions within 1 ft at W-126, and within 1.5 ft at GSX-1R. The contact between the alluvium and the Moqui was also noted to be slightly moist and continued for at least 10 ft into the Moqui at F-91R. Below this depth interval conditions were dry but moist at various intervals especially in fractures once the Wupatki was encountered. During the drilling of W-123R there was also approximately 1 ft of moisture noted past the alluvium-Moqui contact with overlying alluvium being saturated. However, it was also noted that this continuation of moisture may have potentially been from drilling as advancement was difficult upon encountering the contact. Groundwater was encountered at approximately 27 ft bgs at W-307R during drilling.

2.3.3 Monitoring Wells CR-1R, W-123R, W-126R, W307R Construction

Monitoring wells W-123R, W-126R, CR-1R and W-307R are each completed with a 4 in nominal diameter Schedule (SCH) 80 polyvinyl chloride (PVC) well casing with a 4 in nominal diameter SCH 80 PVC screen with 0.020-in slot size. Filter pack material consists of 12-20 silica sand with a transitional sand seal of 20-40 silica sand installed above the filter pack. A well seal consisting of bentonite was installed above the transitional seal followed by a surface seal consisting of cement-bentonite grout. Surface completions are installed with a minimum 2 ft above-grade steel vault placed within a 3 ft by 3 ft concrete pad. CR-1R and W-126R had traffic bollards installed around the concrete pad and W-307R was painted brown.

The screened interval depth of CR-1R was selected to closely resemble the screened interval of abandoned well CR-1 while trying to avoid the depth interval over which root growth was noted in CR-1. The screen interval and final well construction details, including filter pack depth intervals, transitional sand depth intervals, and other seal materials and interval depths are detailed in Table 1 and on the well logs included in Appendix A.

The screened interval depths of W-123R and W-126R were selected to intercept the saturated portion of the alluvium. However, during drilling it was noted that moist and highly weathered Moqui bedrock was encountered starting at 14.5 ft bgs at W-123R and at 16 ft bgs at W-126R. W-123R was screened from 8 to 18 ft bgs while W-126R was screened from 9 to 19 ft bgs. Both of these wells were built with the ADWR mandated minimum cement grout surface seal of five feet and a 1-foot bentonite seal and transition sand layer to allow for the 10-foot screened section of the well to be placed as shallow as possible. There is a small section of screen (3.5 ft) in both of these wells in dry or slightly wet or moist Moqui, which indicates that these wells will likely only have alluvial water contributing to them and the minimal screen portion in the Moqui is unlikely to conduct alluvial water into the Moqui. Further details of final W-123R and W-126R well construction can also be found in in Table 1 and on the well logs included in Appendix A.

The screened interval depth of W-307R was selected to intercept the upper most saturated alluvium. W-307R was screened from 35 to 65 ft bgs. W-307R had to be re-drilled and re-constructed after the first well was found to be not constructed correctly or have a broken casing section as evidenced by the filter pack sand that was found in the well during development. Further details of final W-307R well construction can also be found in in Table 1 and on the well logs included in Appendix A.

2.3.4 Extraction Well GSX-1R Construction

Extraction well GSX-1R is completed with a 6 in nominal diameter SCH 80 PVC well casing with a 6 in nominal diameter SCH 80 PVC screen with 0.020 in slots. The same filter pack sand, transitional seal sand, well seal, and surface seal materials used for the replacement monitoring wells (CR-1R, W-123R, W-126R) were also used for GSX-1R. The surface completion at GSX-1R consists of a minimum 2 ft above-grade steel vault placed within a 3 ft by 3 ft concrete pad.

The screen interval depth of GSX-1R was selected to be similar to that of abandoned well GSX-1 and GSX-2. The screen interval and other final well construction details are outlined in Table 1.

2.3.5 Piezometers F-111R, F-91R, F-92R Construction

Piezometers F-111R, F-91R and F-92R are each completed with a 2 in nominal diameter SCH 80 PVC well casing with a 2 in nominal diameter SCH 80 PVC screen with 0.020 in slots. The same filter pack sand, transitional seal sand, well seal, and surface seal materials used for the replacement monitoring and extraction wells (CR-1R, W-123R, W-126R, W-307R, GSX-1R) were also used for the piezometers. The surface completion at the replacement piezometers consists of a minimum 2 ft above-grade steel vault placed within a 3 ft by 3 ft concrete pad.

The screen interval depth of F-111R and F-92R were selected to be similar to that of abandoned piezometers F-111 and F-92 respectively, and to intercept the saturated portion of the alluvium. The screen interval depth of F-91R was selected to intercept any groundwater within the Wupatki. Final screen depth intervals and other well construction details of the replacement piezometers are outlined in Table 1.

2.3.6 Replacement Well Development

All replacement wells were developed between June 2 and June 20, 2021 except for W-307R which was developed on October 11, 2021. Development techniques varied based on the amount of water produced at each well, but generally consisted of:

- Surging and bailing the well until the amount of sediment produced by each cycle was reduced to trace amounts; and
- Development pumping using a Grundfos Monsoon pump.

Well development results are summarized in Table 3. Successful well development (which is typically defined by purging a well until water turbidity reaches less than 5 nephelometric units [NTU]) was achieved at CR-1R, W-123R, W-126R, while development of GSX-1R, F-111R, F-91R, and F-92R was unsuccessful due to the high level of fine sediment in the well and limited time for development. A final turbidity measurement was not available for W-307R, however visually the water clear and likely achieved successful development.

2.4 Management of Investigation-Derived Waste

Investigation-derived waste consisted of groundwater pumped during well development and soil cuttings produced during drilling. Groundwater pumped from the wells during development was directed to trailer mounted tank and then transported to either the SEDI tank or the BAP toe drain sump for disposal. Drill cuttings were spread on the ground surface near each well site.

2.5 Replacement Well Survey

The location, surface elevation, and measuring point elevation for each well was surveyed by Martin Land Surveys, a registered Arizona land surveyor, on November 8, 2021. The location and surface elevation of the well abandonment monument for each abandoned well was also surveyed at this time. Tables 1 and 2 summarizes the survey data, and the final survey report is included as Appendix C.

3.0 Aquifer Testing

One step-rate and one constant-rate aquifer test was performed on GSX-1R to evaluate well performance and estimate local aquifer properties (e.g., transmissivity and hydraulic conductivity). Water level impacts were recorded at observation points EW-03 and F-111R during both aquifer tests (Figure 5).

3.1 Aquifer Test Equipment and Extracted Groundwater Management

A 3 in nominal diameter test pump (Grundfos ½ horsepower [HP] 5 gallons per minute [gpm] SQ) was used to conduct the step-rate aquifer test, and a 2 in nominal diameter test pump (Proactive 12 Volt Mini Monsoon) was used to conduct the constant-rate aquifer test. Pumping rates were determined by observing the time required to fill a container of known volume and were verified at approximately 5-to-10-minute intervals throughout the aquifer tests. Water-level data was recorded at test and observation wells using In-Situ Level TROLL® 700 pressure transducers with a vented cable and water levels at GSX-1R were verified with a water-level meter. Groundwater pumped during the aquifer tests was containerized at the test well location before conveyance to the SEDI tank for disposal.

3.2 GSX-1R Testing

Step-rate testing of GSX-1R was performed on June 28, 2021. The test pump intake was installed at 49.1 ft bgs and the GSX-1R static water level (swl) was 23.30 ft bgs. The step-rate test consisted of pumping GSX-1R at three different steps (i.e., pumping rates) for approximately 60 minutes per step. Pumping rates ranged from 1.0 to 1.5 gpm and drawdown was relatively stable during the first pumping step of 1.0 gpm. Approximately 7.40 ft of drawdown occurred during the first step, equating to a specific capacity of 0.14 gpm/ft. Figure 6 depicts the drawdown data collected throughout test.

Constant-rate testing of GSX-1R was performed on July 28 and 29, 2021. The test pump intake was installed at 50.9 ft bgs and the swl was measured at 22.23 ft bgs, which equates to over 100 percent (%) recovery to the swl after conducting the step-rate test. Based on the results of the step-rate test, a pumping rate of 1.0 gpm was selected for the constant-rate test. The test began at 14:00 at a pumping rate of 1.0 gpm after initial problems maintaining a constant-rate with other temporary pumps. Due to time constraints and the issues encountered initially, the constant rate test ran at just under 1.0 gpm for approximately 18.5 hours. This pumping rate was selected as it was the lowest stable pumping rate that could be achieved with the pump available. At low (<5 gpm) pumping rates, achieving a consistent rate is also difficult and the pumping rate during the constant rate test had to be continually adjusted. Figure 7 presents a linear plot of GSX-1R time-drawdown data and recovery data.

After stopping the test pump, water-level recovery was monitored for approximately 51 minutes. The GSX-1R water level recovered to over 90 % of the swl approximately 51 minutes after stopping the pump.

Wells F-111R, EW-03, EW-01, EW-04, F-91R, F-92R, W-123R, and W-126R were all monitored for water level changes during both the step and constant rate tests (Figure 5). There were only measurable changes in the water levels in wells F-111R and EW-03, therefore only these two wells were included in the analysis. The pressure transducer in EW-03 had to be removed before complete recovery occurred in that well due to staff time constraints. Recovery was approximately 58% in EW-03 when the pressure transducer was removed.

Drawdown was observed in both EW-03 and F-111R during step rate and constant rate testing at GSX-1R. Figure 8 presents a linear plot of time-drawdown observed at both observation wells during the step-rate test and Figure 9 presents a linear plot of time-drawdown observed at both observation wells during the constant-rate test. Pumping in GSX-01R had a greater influence on the water located at F-111R than at EW-03. Following the constant-rate test, recovery was monitored at F-111R for approximately 150 minutes and at EW-03 for 139 minutes after the pump at GSX-01R was stopped.

3.3 Aquifer Test Analysis

The results from the aquifer test were evaluated using several analytical solutions included in the AQTESOLV (Duffield, 1996) software package. Results of the AQTESOLV analyses are described in the following sections and presented as Appendix E.

To evaluate the aquifer test results the conceptual site model (CSM), as described in Wood 2020b**,** was used to base the analysis assumptions. In addition, the local hydrogeologic conditions were assessed by reviewing lithologic logs, well construction diagrams and previous aquifer testing done in the area (Wood, 2021b and Wood, 2021c). The alluvial aquifer receives recharge from the LCR and leakage from the FAP. It consists of unconsolidated, heterogeneous layers of clay, silt, sand, and gravel. Generally, water flows west-southwest through fine grained layers. The heterogeneity of the alluvial aquifer in the area of the FAP likely results in variable thickness and hydraulic conductivity over small areas. Only low flow rates have been possible from wells that are completed in this aquifer, making it difficult to conduct a steady flow constant-rate test that impacts enough of the aquifer to average the heterogeneity and make a general evaluation of the larger aquifer area around subject wells.

The thickness of the aquifer (b) of 24 ft was based on the saturated thickness is the pumping well, GSX-1R. This was determined by the vertical distance from the static water level prior to the beginning of the aquifer testing of 25.2 ft bgs to the alluvial contact with the Moqui at 49.5 ft. This value is consistent with the aquifer thickness (19 and 27 ft) used in other analyses of alluvial wells located in the same area (Wood, 2021c). The hydraulic conductivity anisotropy ratio of vertical (Kz) to radial conductivities (Kr) was assumed to be 0.01 which is consistent with the expected range of alluvium with clay layers present.

Hydraulic conductivities were estimated using the following equation:

$$T=kb$$

(T=transmissivity [ft^2/day], k=hydraulic conductivity [ft/day], and b=aquifer thickness [ft])

The Hantush-Jacob solution for a pumping test was selected as the most applicable solution for this location. This solution assumes the following: homogenous, isotropic, leaky, confined aquifer with steady flow (no storage) in the aquitard(s) (Hantush and Jacob, 1955). Applying the principle of superposition in time, Theis (1935) proposed a straight-line solution for determining transmissivity and storativity from residual drawdown (i.e., the drawdown in a well after pumping stops) data collected during the recovery phase of a pumping test. The solution assumes a line source for the pumped well and therefore neglects wellbore storage and was selected to analyze the recovery data of the pumping well GSX-1R.

3.4 GSX-1R Aquifer Test Analysis Results

The GSX-1R constant-rate test drawdown data was analyzed using the Hantush-Jacob and Theis methods, which produced transmissivity values ranging from 2.8 ft^2/d (21 gallons per day [gpd]/ft) to 126.4 ft^2/d (945 gpd/ft). Table 4 includes a summary of the results from the aquifer test analysis of the pumping well GSX-1R and two observation wells, F-111R and EW-3. Hydraulic conductivities in the range of 0.1 ft/d to 5.3 ft/d were estimated using the transmissivities obtained from the aquifer test analysis and the saturated thickness. The average transmissivity excluding the pumping well data analysis is 83.6 ft^2/d (625 gpd/ft) for this aquifer test and the average hydraulic conductivity is 3.5 ft/d, also excluding the pumping well analysis.

As indicated on the GSX-1R time-drawdown curve (Figure 7), drawdown did not stabilize during the 18 hour constant-rate test at a pumping rate of 1 gpm.

The results of this aquifer test are consistent with the results other recent aquifer tests completed in the area around the base of the FAP in alluvial wells. Four aquifer tests conducted on wells EW-01 through 04 had an average transmissivity of 102 ft^2/d (Wood 2021b).

3.5 Zone of Influence

As noted in Sections 3.2 and 3.3 above, water levels at wells F-111R and EW-03 were influenced by the aquifer test at GSX-1R. F-111R is the closest to the pumping well and is approximately 30 ft to the northwest of GSX-1R. EW-03 is approximately 88 ft away from GSX-1R also in the northwest direction. EW-04 and W-123R were also monitored and were not influenced by the aquifer test. EW-04 is 92 ft and W-123R is 111 ft, both to the southeast of the pumping well. All other wells monitored had no discernable influence from the aquifer test. It is hypothesized that this limited zone of influence impacting only wells to the northwest of GSX-1R is due to a heterogeneous aquifer exhibiting limited connectivity and disconnected water bearing zones. Similar hydraulic connectivity zones were evident in the aquifer testing done in early 2021 at wells EW-01 through 04 (Wood, 2021b). In those tests, EW-01, EW-02 and EW-03 all impacted nearby wells with the exception of the wells located southwest of those pumping wells. EW-04 as the pumping well had no impact to wells located northwest of the well, but did influence the nearest well to the southwest, W-126.

4.0 Groundwater Sampling

Groundwater samples were collected from the monitoring and extraction wells for this project. Where possible, a sample was collected during development and by low flow methods at least once at each well. The samples for the low flow method were collected in accordance with the sampling and analysis plan developed for the site (Montgomery & Associates, 2015). The samples were submitted to Eurofins TestAmerica Laboratories, Inc., an Arizona Department of Health Services-licensed laboratory (AZ0728), for analysis of arsenic, cobalt, fluoride, lithium, molybdenum, iron, and water quality ions.

The laboratory analytical reports are included as Appendix F. Analytical results are present in Table 5 for the wells near the FAP (W-123R, W-126R and GSX-1R), Table 6 for CR-1R and Table 7 for the well at the BAP (W-307R). Samples were collected from GSX-1R during the constant-rate aquifer test and analyzed for boron and fluoride (Table 5). The results are comparable to water quality data that has historically been collected at the original wells.

5.0 Summary And Recommendations

The aquifer test for extraction well GSX-1R induced a small amount (<1ft) of drawdown at two wells EW-03 and F-111R, both to the northwest of the well. There was no impact to the nearest wells located to the southeast of the pumping well (EW-04 and W-123R). This is similar to the hydraulic connectivity that was shown during the EW-01, EW-02 and EW-03 aquifer testing (Wood, 2021b). There are likely at least two poorly or not connected at all water bearing alluvial zones in the area around the base of the FAP.

The step test for GSX-1R only had one step that had data that allowed a specific capacity of 0.14 gpm/ft to be calculated. This value is lower than the specific capacities calculated for EW-01 through 04 in Wood, 2021b.

It is recommended that extraction well GSX-1R be equipped with a submersible pump capable of a design pump rate of 0.75 gpm to allow for a constant pumping rate that minimizes pump start/stop cycles.

6.0 References

AMEC Environment & Infrastructure, Inc. (AMEC). 2012. *Well Completion Report – Installation of Aquifer Protection Permit Monitoring Wells.* Arizona Public Service Company, Cholla Power Plant, Navajo County, Arizona. May 7, 2012.

Duffield, G.M., 1996. *AQTESOLV* for Windows by HydroSOLVE Inc., Reston, VA.

Hantush, M.S. and C.E. Jacob, 1955. Non-steady radial flow in an infinite leaky aquifer, American Geophysics Union Trans., vol. 36, pp. 95-100.

Montgomery & Associates, 2011. Arizona Public Service Cholla Power Plant Point of Compliance Evaluation. Prepared for APS. January 26, 2011.

Montgomery & Associates, 2015. Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona. #CH_GW_SAP_021_11-30-15. November 30, 2015.

Montgomery & Associates, 2017. *Cholla Power Plant Coal Combustion Residuals Program – Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks*. Navajo County, Arizona. Document #CH_GW_SystemCert_020_20170919. September 19, 2017.

Montgomery & Associates, 2018. *Cholla Power Plant Coal Combustion Residuals Program – Statistical Analysis of Baseline Groundwater Monitoring Data, November 2015 through September 2017*. Prepared for Arizona Public Service. January 12, 2018. Revised May 22, 2018.

Theis, C.V., 1935. *The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage*, Am. Geophys. Union Trans., vol. 16, pp. 519-524.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Fly Ash Pond*. Arizona Public Service Cholla Power Plant - Navajo County, Arizona. Technical Memorandum dated October 15, 2018.

Wood, 2019. *Assessment of Corrective Measures for the Fly Ash Pond and the Bottom Ash Pond*. Coal Combustion Residuals Rule and Aquifer Protection Permit Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated June 14, 2019.

Wood, 2020a. *Hydrogeologic Investigation of the Fly Ash Pond and Bottom Ash Pond*. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated January 31, 2020.

Wood, 2020b. *Summary of Hydrogeologic Conditions for the FAP, BAP, BAM and SEDI*. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated November 30, 2020.

Wood, 2021a. *Annual Groundwater Monitoring and Corrective Measures Action Report for 2020*. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated January 31, 2021.

Wood, 2021b. *Well Completion Report Fly Ash Pond Extraction Wells*. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report in review.

Wood, 2021c. *Aquifer Tests at FAP Wells W-123, W-126 and MW-66A*. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated January 31, 2021.

Wood, 2021d. *Seepage Intercept System Evaluation at the FAP*. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Technical Memo in review.

Tables

Table 1
Well Construction Summary

Well	55 Number	Date Installed	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Northing	Easting	Top of Casing Elevation (ft amsl)	Ground Surface Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Top Screen Elevation (ft amsl)	Bottom Screen Elevation (ft amsl)	Bottom Borehole Elevation (ft amsl)	Well Diameter (in)	PVC Sump (ft)	Final Well Purpose	Completion Aquifer
New Wells [2]																		
GSX-1R	55-926115	5/16/2021	54	54	1429195.62	669842.67	5037.06	5035.81	29	49	20	5,006.81	4,986.81	4,981.81	6	5	Extraction	Alluvial
F-111R	55-926111	5/15/2021	52	50	1429230.07	669804.44	5037.63	5035.13	29	49	20	5,006.13	4,986.13	4,983.13	2	N/A	Piezometer	Alluvial
F-91R	55-926109	5/14/2021	88	88	1429382.48	669636.50	5036.43	5034.33	77.5	87.5	10	4,956.83	4,946.83	4,946.33	2	N/A	Piezometer	Wupatki
F-92R	55-926110	5/14/2021	50	47.5	1429360.18	669644.20	5036.02	5033.52	27	47	20	5,006.52	4,986.52	4,983.52	2	N/A	Piezometer	Alluvial
W-123R	55-926116	5/12/2021	19	19	1429137.31	669931.05	5040.33	5038.53	8	18	10	5,030.53	5,020.53	5,019.53	4	N/A	Monitor	Alluvial
W-126R	55-926120	5/3/2021	27	20	1428727.16	669697.63	5031.12	5029.57	9	19	10	5,020.57	5,010.57	5,002.57	4	N/A	Monitor	Alluvial
CR-1R	55-926108	4/28/2021	67	48	1433520.34	656629.68	5009.25	5007.95	28	48	20	4,979.95	4,959.95	4,940.95	4	N/A	Monitor	Alluvial
W-307R	55-926816	10/4/2021	67	65	1437018.69	664515.77	5047.61	5,045.26	35	65	30	5,010.26	4,980.26	4,978.26	4	N/A	Monitor	Alluvial
Existing Wells [1]																		
EW-01	55-925217	12/10/2020	55	55	1429449.21	669561.94	5,037.36	5,035.09	20	50	30	5,015.09	4,985.09	4,980.09	6	5	Extraction	Alluvial
EW-02	55-925218	12/11/2020	55	53	1429318.29	669705.64	5,036.64	5,034.01	18	48	30	5,016.01	4,986.01	4,979.01	6	5	Extraction	Alluvial
EW-03	55-925215	12/12/2020	55	52	1429260.98	669767.09	5,037.71	5,035.20	17	47	30	5,018.20	4,988.20	4,980.20	6	5	Extraction	Alluvial
EW-04	55-925216	12/10/2020	30	24	1429150.44	669906.40	5,039.93	5,037.18	9	19	10	5,028.18	5,018.18	5,007.18	6	5	Extraction	Alluvial

Notes:

1) Source of elevation and location data is Martin Land Surveyors, 2020

2) Source of elevation and location data is Martin Land Surveyors, 2021

Horizontal Coordinate System: Arizona State Plane East (ft),North American Datum 1983

Vertical datum is North American Vertical Datum 1988

Abbreviations:

amsl - above mean sea level

bgs - below ground surface

ft - feet

Table 2
Well Abandonment Summary

Well	Date Abandoned	55 Number	Well Depth (ft bgs)	Northing	Easting	Abandonment monument elevation (ft amsl)
GSX-1	5/15/2021	55-539103	40	1429199.49	669836.29	5,036.07
GSX-2	5/15/2021	55-539104	40	1429220.98	669814.29	5,035.74
F-111	5/15/2021	55-482992	51	1429208.07	669823.16	5,035.54
F-91	5/11/2021	55-482994	76	1429361.55	669646.39	5,034.08
F-92	5/14/2021	55-482995	56	1429350.53	669626.61	5,032.89
W-123	5/12/2021	55-506587	40	1429140.75	669925.27	5,038.75
W-126	5/3/2021	55-553268	50	1428722.64	669678.87	5,029.91
W-307	9/22/2021	55-506366	118	1437006.25	664502.14	5,046.04

Notes:
Horizontal Coordinate System: Arizona State Plane East (ft),North American Datum 1983
Vertical datum is North American Vertical Datum 1988
Source of elevation and location data is Martin Land Surveyors, 2021

Abbreviations:
amsl - above mean sea level
bgs - below ground surface
ft - feet

Table 3
Well Development Summary

Well ID	Development Date(s)	Development Methods	Total Time Spent on Development (hours)	Final Turbidity Measurement
GSX-1R	6/5/2021, 6/6/2021	Surge, bail, pump	6.2	15.3 NTUs
W-123R	6/4/2021, 6/5/2021	Surge, bail, pump	18.3	4.84 NTUs
W-126R	6/4/2021, 6/5/2021	Surge, bail, pump	4.1	3.01 NTUs
CR-1R	6/2/2021	Surge, bail, pump	6.9	4.66 NTUs
F-92R	6/19/2021,	Surge, bail, pump	4.3	99.3 NTUs
F-111R	6/6/2021, 6/20/2021	Surge, bail, pump	0.6	32.5 NTUs
F-91R	6/7/2021, 6/19/2021	Surge, bail, pump	5.8	198 NTUs
W-307R	10/11/2021	Surge, bail, pump	14	N/A

Abbreviations:
NTU - Nephelometric turbidity unit
N/A - Not available

Table 4
Aquifer Test Analysis Summary

Analytical Solution	Observation Point	Transmissivity		Storativity	Saturated Thickness (ft)	Hydraulic Conductivity (ft/d)
		(ft^2/d)	(gpd/ft)	(dimensionless)		
Theis-recovery	Pumping Well GSX-1R	2.8	21	na	24	0.1
Hantush-Jacob Drawdown	EW-03	54.9	410.7	0.0020	24	2.3
Hantush-Jacob Drawdown	F-111R	61.0	456	0.0048	24	2.5
Hantush-Jacob Drawdown	EW-3 & F-111R	126.4	945	0.0006	24	5.3
Hantush-Jacob residual	F-111R	92.0	688	0.0017	24	3.8

Abbreviations:

d - day

ft - foot/feet

gpd - gallons per day

na - not applicable

Table 5 - Analytical Results for FAP Replacment Well Groundwater Samples

Sample Location			**W-123R**			**W-126R**			**GSX-1R**			
			Development	Low Flow	Low Flow	Development	Low Flow	Low Flow	Aquifer Test	Aquifer Test	Aquifer Test	Low Flow
Analyte	**Units**	***GWPS/BTV***	**6/5/2021**	**6/15/2021**	**8/3/2021**	**6/4/2021**	**6/15/2021**	**8/3/2021**	**6/28/2021**	**6/29/2021**	**6/29/2021**	**8/3/2021**
Arsenic	mg/L	*0.01*	0.0048	0.0048	0.0058	0.0023	0.0024	0.0037	--	--	--	0.0057
Bicarbonate	mg/L	--	49 J	48	--	82 J	84	--	--	--	--	75
Boron	mg/L	*1.3*	**31**	**36**	**39**	**40**	**42**	**44**	**16**	**15**	**15**	**7.5**
Calcium	mg/L	*740*	**750**	**750**	730	**750**	**760**	730	--	--	--	**750**
Chloride	mg/L	*5,700*	5,000	5,300	5,400	**6,600**	**6,400**	**6,300**	--	--	--	4,400
Cobalt	mg/L	*0.006*	0.0036	0.0037	0.0036	0.0038	0.0045	0.0042	--	--	--	0.002
Fluoride	mg/L	*4.0*	**5.0**	**4.1**	**5.2**	**5.0**	3.6	**4.6**	2.5	2.5	2.5	2.8
Iron	mg/L	--	--	0.064 J	0.04 J	--	0.17	0.26	--	--	--	0.058 J
Lithium	mg/L	*0.31*	**0.48**	**0.52**	**0.52**	**0.64**	**0.66**	**0.66**	**--**	**--**	**--**	**0.52**
Magnesium	mg/L	--	230	280	--	410	420	--	--	--	--	240
Molybdenum	mg/L	*0.1*	**0.35**	**0.24**	**0.24**	**0.27**	**0.26**	**0.31**	**--**	**--**	**--**	**0.61**
Potassium	mg/L	--	30	34	--	49	47	--	--	--	--	18
Sulfate	mg/L	*5,100*	3,100	3,500	3,500	3,800	3,800	4,000	--	--	--	3,000
Total Dissolved Solids	mg/L	*15,000*	12,000 J	12,000	12,000	**16,000 J**	14,000	14,000	--	--	--	9,700

Notes:

Appendix III constituents are highlighted in light green

Appendix IV constituents are highlighted in dark green

Concentrations exceeding respective Groundwater Protection Standards are bolded

No aquifer test conducted at W-123R or W-126R

No samples could be taken for GSX-1R during well development due to high turbidity

Abbreviations:

BTV - Background Threshold Value

GWPS - Groundwater Protection Standard

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

mg/L - milligrams per liter

Table 6 - Analytical Results for SEDI Replacement Well Groundwater Samples

Sample Location			CR-1R
			Low Flow
Analyte	**Units**	***GWPS/BTV***	**8/2/2021**
Arsenic	mg/L	*0.01*	< 0.00075 U
Boron	mg/L	*0.23*	0.15
Calcium	mg/L	*600*	120
Chloride	mg/L	*3,700*	640
Cobalt	mg/L	*0.006*	< 0.0005
Fluoride	mg/L	*4.0*	0.41 J
Lithium	mg/L	*0.2*	0.036
Molybdenum	mg/L	*0.1*	0.0042
Sulfate	mg/L	*630*	250
Total Dissolved Solids	mg/L	*7,800*	1,700

Notes:

Appendix III constituents are highlighted in light green

Appendix IV constituents are highlighted in dark green

Concentrations exceeding respective Groundwater Protection Standards are bolded

No aquifer test conducted at CR-1R

No samples could be taken for CR-1R during well development due to high turbidity

Abbreviations:

BTV - Background Threshold Value

GWPS - Groundwater Protection Standard

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the

mg/L - milligrams per liter

U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation lir

Table 7 - Analytical Results for BAP Replacement Well Groundwater Samples

Sample Location			W-307R
			Low Flow
Analyte	**Units**	***GWPS/BTV***	**10/28/2021**
Arsenic	mg/L	*0.01*	0.0017
Bicarbonate	mg/L	--	--
Boron	mg/L	*1.3*	**2.6**
Calcium	mg/L	*740*	720
Chloride	mg/L	*5,700*	2,700
Cobalt	mg/L	*0.006*	**0.072**
Fluoride	mg/L	*4*	0.56 J
Iron	mg/L	--	< 0.33 U
Lithium	mg/L	*0.31*	0.28
Magnesium	mg/L	--	--
Molybdenum	mg/L	*0.1*	0.027
Potassium	mg/L	--	--
Sulfate	mg/L	*5,100*	2,700
Total Dissolved Solids	mg/L	*15,000*	8,400

Notes:

Appendix III constituents are highlighted in light green

Appendix IV constituents are highlighted in dark green

Concentrations exceeding respective Groundwater Protection Standards are bolded

Abbreviations:

BTV - Background Threshold Value

GWPS - Groundwater Protection Standard

mg/L - milligrams per liter

J = The result is an estimated quantity. The associated numerical value is the approximate concent

U = The analyte was analyzed for, but was not detected above the level of the reported sample qu

Figures

State Overview

Legend

CCR Monitoring Well Location
- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well

Piezometer Location
- Alluvial Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer

Other Features
- Extraction Well
- Abandoned Well
- Ephemeral Surface Water Feature
- Canal
- Approximate Extent of CCR Unit

Notes:
General Location Map only shows wells drilled or abandoned as part of this project, 2021 wells, December 2020 wells and aquifer test observation points. See each area map for full well locations at each site.

0 500 1,000 1,500 3,000 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

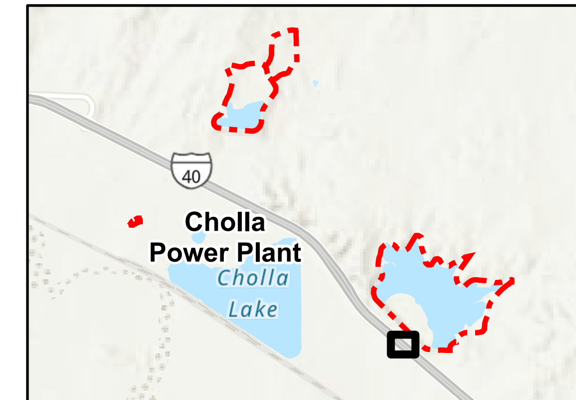
FIGURE 1

General Location Map for Abandoned, Replacement, and New Wells

Job No. 14-2021-2011
PM: MBH
Date: 12/21/2021
Scale: 1"= 1,500'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Well Abandonment and Replacement November 2021\APS Cholla Well Abandonment and Replacement November 2021\APS Cholla Well Abandonment and Replacement November 2021.aprx



Site Vicinity

Legend

CCR Monitoring Well Location
- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well

Seepage Extraction Well Location
- Moenkopi Formation (Moqui Member) Extraction Well
- Seepage Collection Sump

Piezometer Location
- Alluvial Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer

Other Features
- Extraction Well
- Abandoned Well
- Canal
- Approximate Extent of CCR Unit

0 40 80
Feet

N

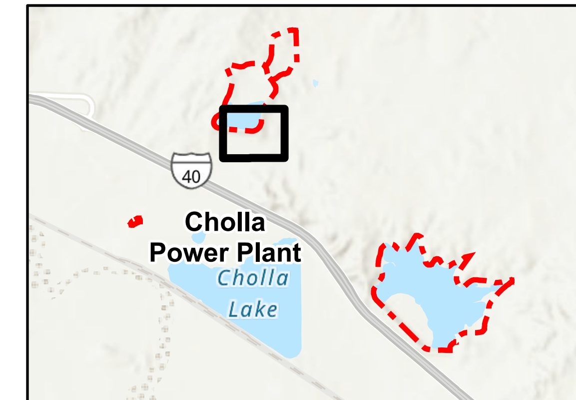
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

FIGURE 2

Fly Ash Pond Area Location Map for Wells, Piezometers, Alluvial Systems

Job No. 14-2021-2011
PM: MBH
Date: 12/21/2021
Scale: 1"= 80'

wood.



Site Vicinity

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well

Piezometer Location

- Alluvial Piezometer
- Coconino Piezometer
- Moenkopi Formation (Moqui Member) Piezometer
- Piezometer, No Formation Zone Data

Other Features

- Extraction Well
- Abandoned Well
- Ephemeral Surface Water Feature
- Approximate Extent of CCR Unit

N

0 100 200 Feet

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

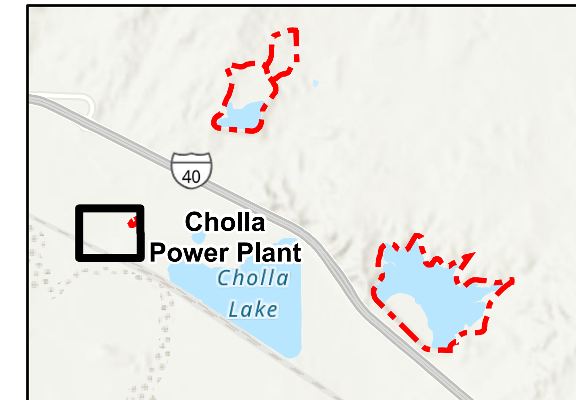
FIGURE 3

Bottom Ash Pond Map For Wells and Piezometers

Job No. 14-2021-2011
PM: MBH
Date: 12/21/2021
Scale: 1"= 200'

wood.

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. Project Number 14-2021-2011. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood Environment & Infrastructure Solutions, Inc. assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.



Site Vicinity

Legend

CCR Monitoring Well Location

Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

Alluvial Monitoring Well

Other Features

Abandoned Well

Ephemeral Surface Water Feature

Approximate Extent of CCR Unit

0 100 200 Feet

N

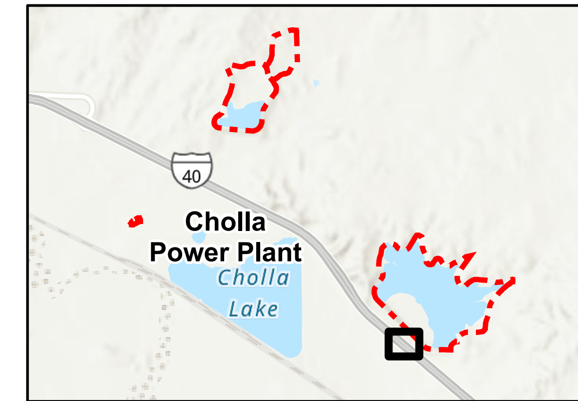
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

FIGURE 4

Sedimentation Pond Map for Wells

Job No. 14-2021-2011
PM: MBH
Date: 12/21/2021
Scale: 1"= 200'

wood.



Site Vicinity

Legend

CCR Monitoring Well Location
- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location
- Alluvial Monitoring Well
- C-Aquifer Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well

Seepage Extraction Well Location
- Moenkopi Formation (Moqui Member) Extraction Well

Piezometer Location
- Alluvial Piezometer
- Coconino Piezometer
- Moenkopi Formation (Moqui Member) Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer

Other Features
- Extraction Well
- Aquifer Test Observation Point
- Canal
- Approximate Extent of CCR Unit

0 50 100 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

FIGURE 5

GSX-1R Aquifer Test Observation Point Map

Job No.	14-2021-2011
PM:	MBH
Date:	12/21/2021
Scale:	1"= 100'

wood.

Figure 6 - GSX-1R Step-Rate Test Drawdown and Recovery Plot

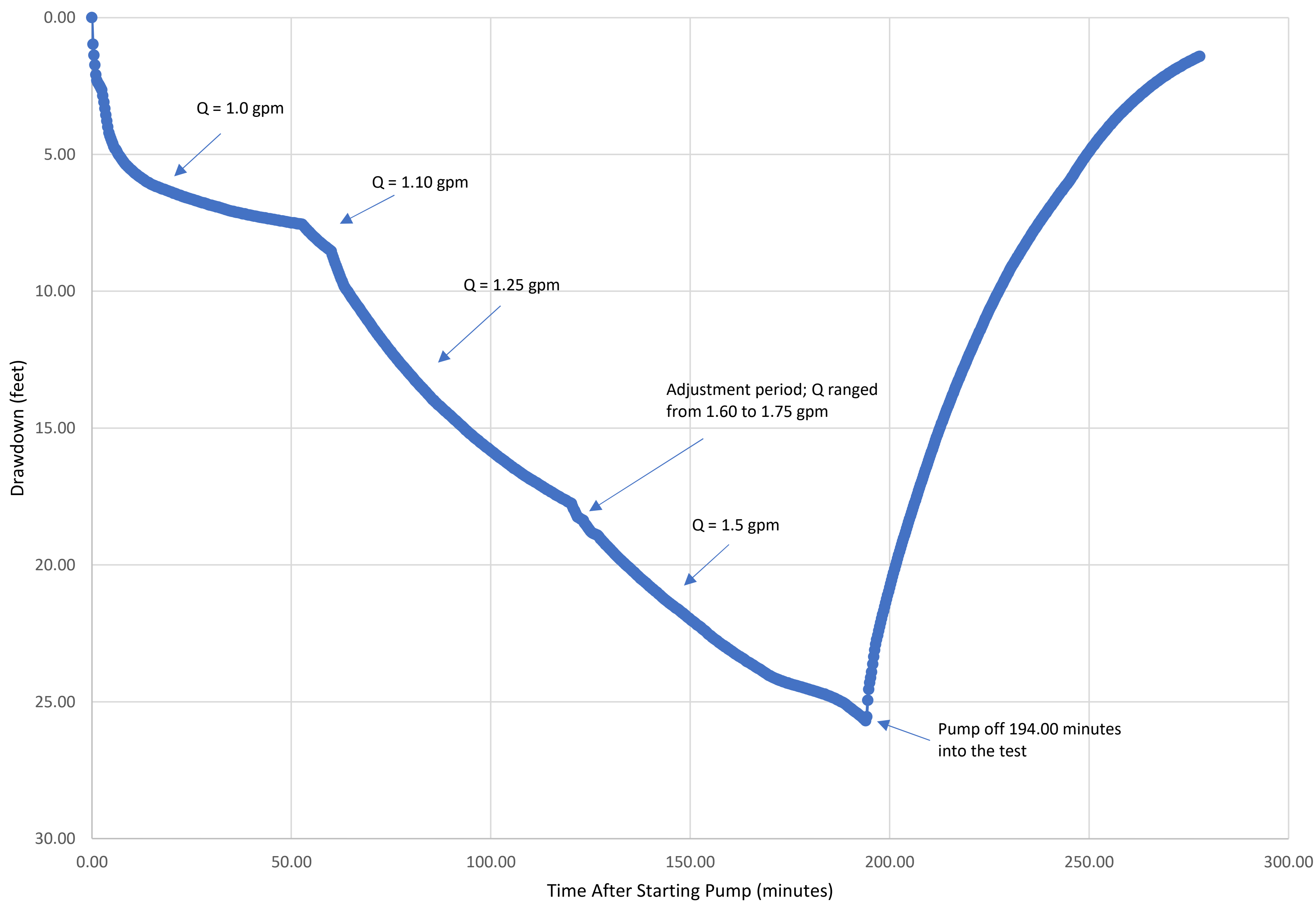


Figure 7 - GSX-01R Constant Rate Test Drawdown and Recovery Test

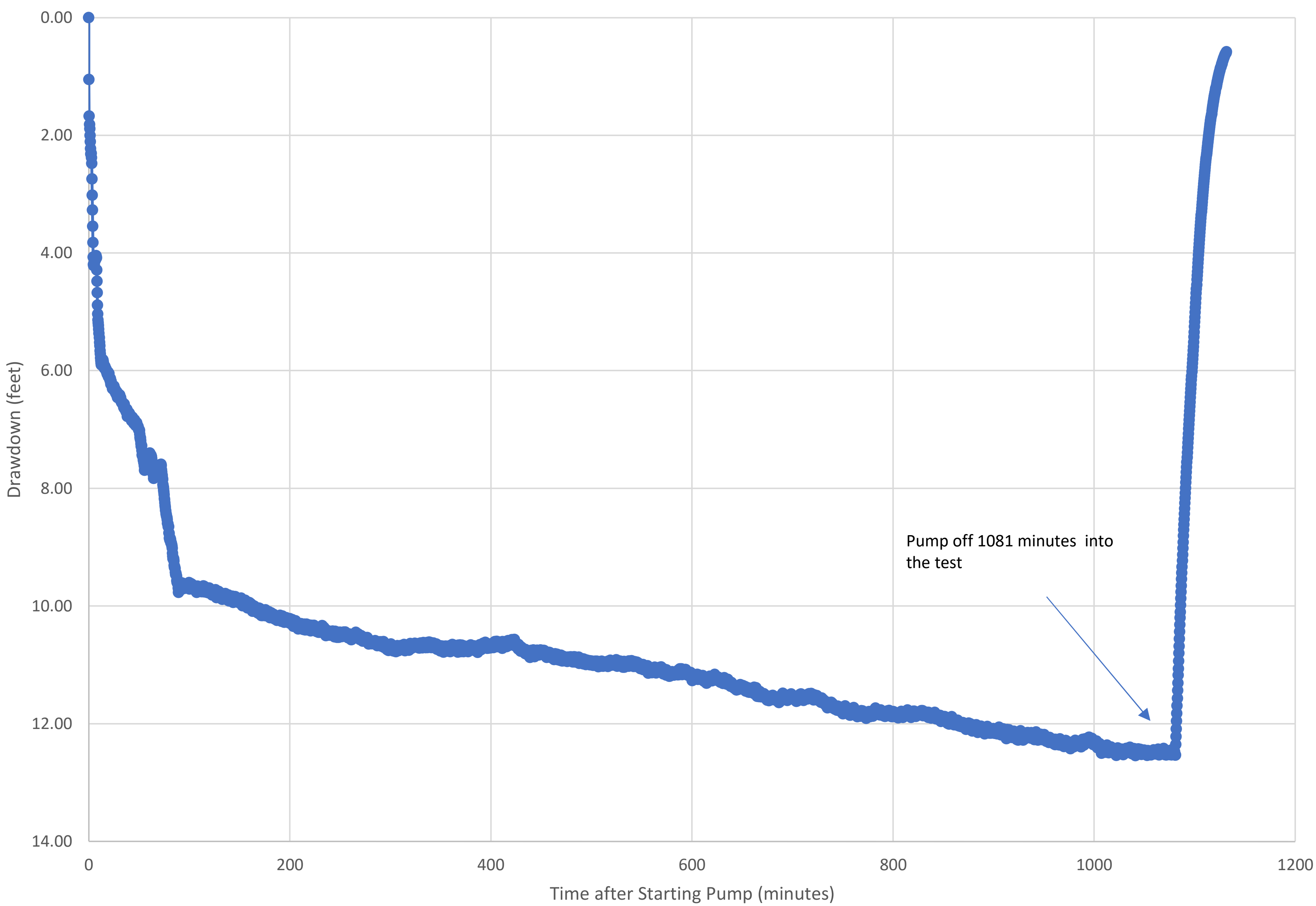
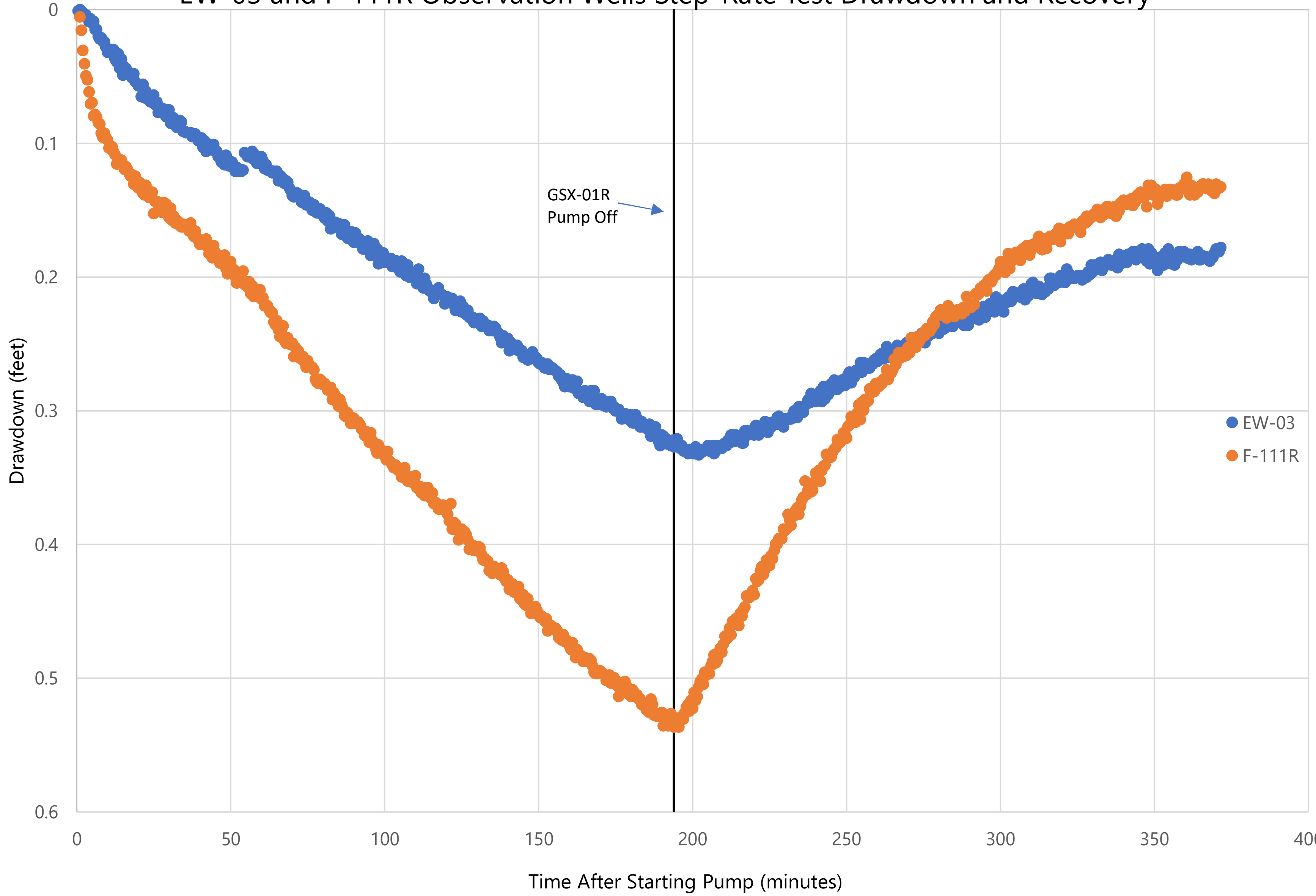


Figure 8
EW-03 and F-111R Observation Wells Step-Rate Test Drawdown and Recovery



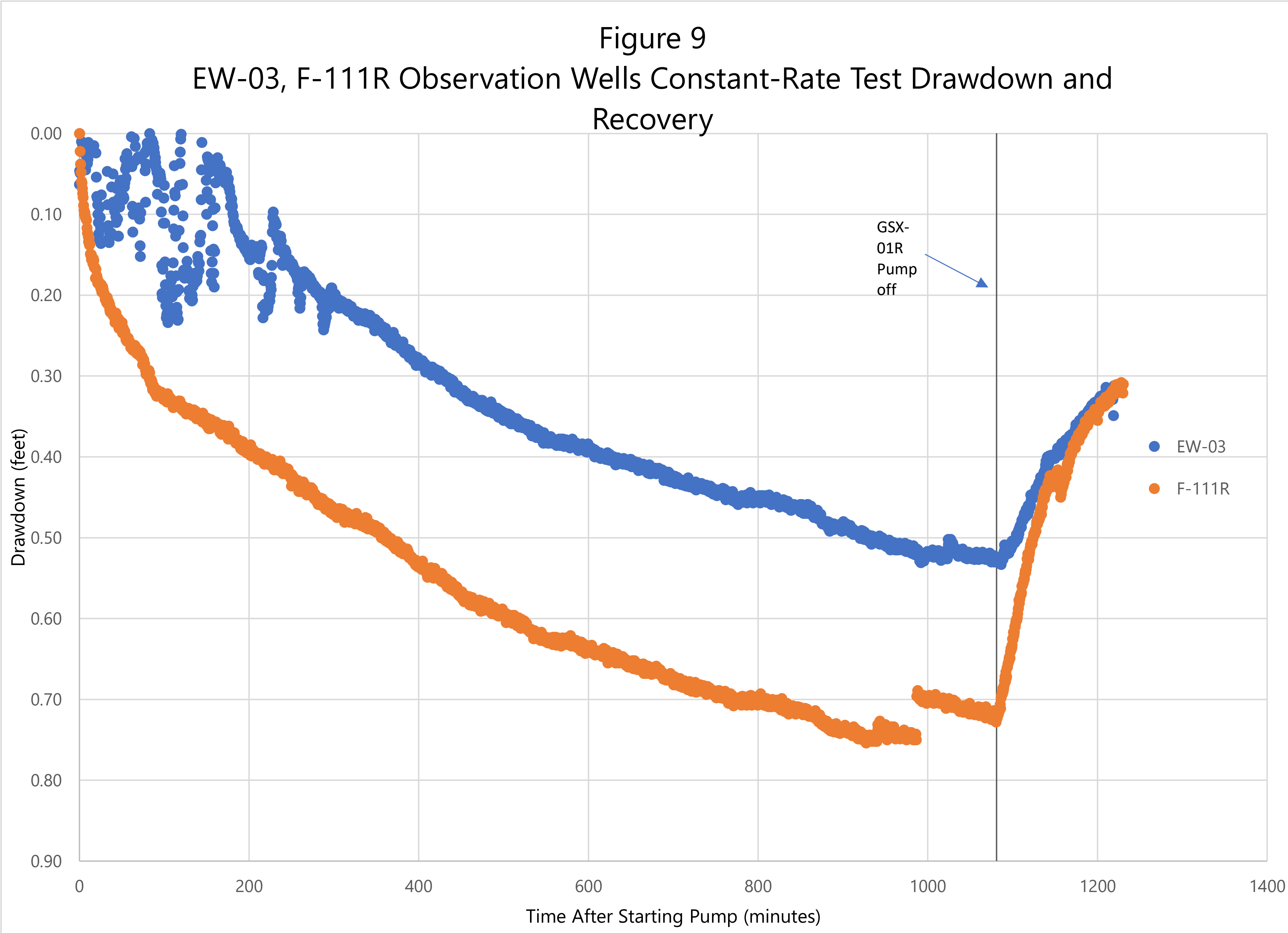


Figure 9
EW-03, F-111R Observation Wells Constant-Rate Test Drawdown and Recovery
0.00
0.10
0.20
0.30
0.40
0.50
0.60
0.70
0.80
0.90
Drawdown (feet)
0
200
400
600
800
1000
1200
1400
Time After Starting Pump (minutes)
GSX-01R Pump off
EW-03
F-111R

Appendix A

Lithologic Logs and Well Construction Diagrams

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

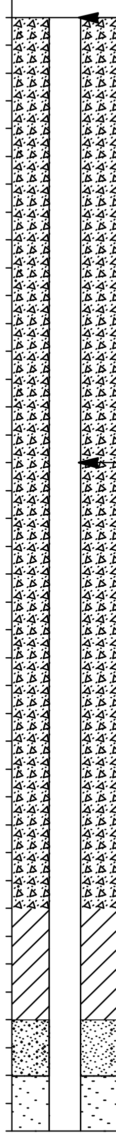
BORING LOG I.D.: EW-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925217
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429449.21, E669561.94
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5035.09
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5037.36
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/09/2020 **START TIME:** 13:59
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/10/2020 **COMPLETION TIME:** 11:51

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5035.1	0					Hydro-excavated from 0 to 6'
5030.1	5					
					ML	**SILT WITH SAND,** 75% fines, 25% fine grained subrounded sand, uncemented to weakly cemented, low plasticity, dark reddish brown (5YR 3/3), slightly moist, low dry strength, no odor, predominant gypsum filaments
5025.1	10					
5020.1	15					note: at 15' moist
					ML	**SILT,** 90% fines, homogenous, weakly cemented, low to medium plasticity, reddish brown (5YR 4/4), moist, no odor, trace gypsum nodules
5015.1	20					

WELL INFORMATION (Construction Details and/or Drilling Remarks)

Depth in Feet: 0, 5, 10, 15, 20



- 3'x3' concrete pad with +3' steel vault monument
- Portland Cement Grout From 0' to 16'
- 6" schedule 80 PVC Casing From 2.3' to 20'
- Bentonite Seal From 16' to 18'
- Transition Sand (20-40 silica sand) From 18' to 19'

(Continued Next Page)

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
23.4	11:15	12/13/2020
23.1	11:00	12/14/2020
23.2	---	12/30/2020

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925217	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5015.1	20						20	Filter Pack (12-20 silica sand) From 19' to 51'
5010.1	25						25	
5005.1	30						30	
5000.1	35						35	6" schedule 80 PVC Screen (0.020-in slot size) From 20' to 50'
					ML	**CLAYEY SILT,** 95% fines with high clay content, homogenous, moderately cemented, high plasticity, reddish brown (5YR 5/3), wet, no odor, trace gypsum		
4995.1	40						40	
					SM	**SILTY SAND WITH GRAVEL,** 40% fine		
4990.1	45						45	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.4	11:15	12/13/2020
▼	23.1	11:00	12/14/2020
▼	23.2	---	12/30/2020
▼			

METHOD

(Continued Next Page)

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925217	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4990.1	45					to coarse grained subrounded sand, 35% fine to coarse grained subrounded gravel, 25% fines, uncemented, no to low plasticity, reddish brown (2.5YR 4/4), wet, no odor	45	Filter Pack (12-20 silica sand) From 19' to 51'; 6" schedule 80 PVC Screen (0.020-in slot size) From 20' to 50'
4985.1	50					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** predominately pale-reddish brown, very thin to thinly laminated, interbedded with thin greenish-pale grey siltstone, and white, medium bedded gypsum, dry	50	Bentonite Seal From 51' to 55'; 6" schedule 80 PVC Casing From 50' to 55'
4980.1	55						55	PVC End Cap
4975.1	60						60	
4970.1	65						65	
4965.1	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	23.4	11:15	12/13/2020
▼	23.1	11:00	12/14/2020
▼	23.2	---	12/30/2020
▼			

METHOD

wood.

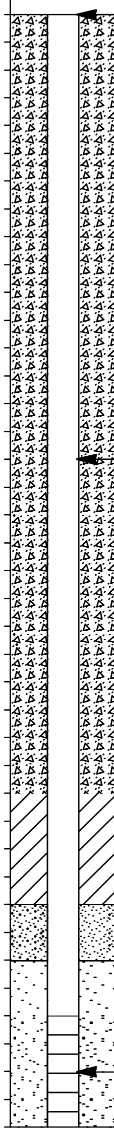
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925218
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429318.29, E669705.64
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5034.01
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5036.64
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/11/2020 **START TIME:** 10:04
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/11/2020 **COMPLETION TIME:** 16:28

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5034.0	0					Hydro-excavated from 0 to 6'
5029.0	5					
	6				ML	**SILT WITH SAND,** 75% fines, 25% fine grained subrounded sand, low plasticity, weakly to moderately cemented, dark reddish brown (5YR 3/3), slightly moist, low dry strength, no odor, predominant gypsum filaments from 6' to 9' note: at 9' gypsum filaments absent, trace gypsum nodules noted
5024.0	10					
5019.0	15				SM	**SILTY SAND,** 65% fine to coarse grained subrounded to subangular sand, 35% fines, rare fine to coarse grained subrounded to subangular gravel, predominantly uncemented, no to low plasticity, reddish brown color (2.5YR 4/4), wet, no odor, trace gypsum nodules note: at 17.5' coarse grained sand increases significantly
5014.0	20					

WELL INFORMATION (Construction Details and/or Drilling Remarks)



Depth in Feet	WELL INFORMATION
0	3'x3' concrete pad with +3' steel vault monument
5	Portland Cement Grout From 0' to 16'
	6" schedule 80 PVC Casing From 2.6' to 18'
15	Bentonite Seal From 14' to 16'
	Transition Sand (20-40 silica sand) From 16' to 17'
	6" schedule 80 PVC Screen (0.020-in slot size) From 18' to 48'
20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.3	12:58	12/13/2020
▼	22.3	11:00	12/15/2020
▼	22.1	---	12/30/2020
▼			

METHOD

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925218	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5014.0	20				ML	**SILTY SAND,** 60% fines, 40% predominantly fine grained subrounded sand, homogenous, uncemented to weakly cemented, low to medium plasticity, reddish brown (5YR 4/4), wet, no odor, trace gypsum nodules	20	Filter Pack (12-20 silica sand) From 17' to 49'
						note: from 24' to 25' coarse grained sand increases		
5009.0	25						25	
5004.0	30						30	6" schedule 80 PVC Screen (0.020-in slot size) From 18' to 48'
						note: from 33' to 35' coarse grained sand increases		
4999.0	35					note: from 35' to 37' trace subrounded to subangular gravel up to 1.5 cm in diameter	35	
					SM	**SILTY SAND WITH GRAVEL,** 55% predominantly fine-grained subrounded sand, 25% fines, 20% fine to coarse grained subrounded to subangular gravel, homogenous, uncemented, low plasticity, reddish-brown (2.5YR 4/3), wet, very soft, no odors		
4994.0	40						40	
					ML	**GRAVELLY SILT WITH SAND,** 45% fines of predominantly silt with high clay content, 35% fine to coarse grained predominantly subrounded gravel, 20% predominantly fine grained subrounded		
4989.0	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.3	12:58	12/13/2020
▼	22.3	11:00	12/15/2020
▼	22.1	---	12/30/2020
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925218	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4989.0	45					sand, homogenous, weakly cemented, medium plasticity, dark reddish brown (5YR 3/4), moist, firm, no odors, and some gypsum filaments and nodules from 43' to 45' note: at 45' gravel increases in volume, average diameter ~ 3 cm	45	Filter Pack (12-20 silica sand) From 17' to 49'
						TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE, pale-reddish brown, very thin to thinly laminated, interbedded thin band of pale-greenish-grey siltstone, and thin bedded white gypsum, dry		6" schedule 80 PVC Casing From 48' to 53'
4984.0	50						50	Bentonite Seal From 49' to 55'
								PVC End Cap
4979.0	55						55	
4974.0	60						60	
4969.0	65						65	
4964.0	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.3	12:58	12/13/2020
▼	22.3	11:00	12/15/2020
▽	22.1	---	12/30/2020
▼			

METHOD __________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-03

PROJECT:			**PROJECT LOCATION:**	APS Cholla Power Plant	
PROJECT MANAGER:	Maren Henley		**PROJECT FEATURE:**	Fly Ash Pond	
LOGGED BY:	Isaac Torres		**WOOD PROJECT #:**	14-2018-2040	
DRILLER:	Jason Camp		**ADWR REG. #:**	55-925215	
DRILLER FIRM:	Cascade Drilling		**COORDINATES:**	N1429260.98, E669767.09	
RIG I.D.:	---		**COORDINATE SYS:**	NAD83	
RIG TYPE:	Sonic		**SURFACE ELEV. (FT):**	5035.20	
BORING TYPE:	---	**BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5037.71	
ORIENTATION:	90°		**VERTICAL DATUM:**	NAVD88	
HAMMER TYPE:	---		**START DATE:**	12/12/2020	**START TIME:** 08:43
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---		**COMPLETION DATE:**	12/12/2020	**COMPLETION TIME:** 15:04

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5035.2	0					Hydro-excavated from 0 to 6'
5030.2	5					
					ML	**SILT WITH SAND,** 70% fines, 30% predominantly fine grained subrounded sand, weakly to moderately cemented, low plasticity, moist, dark reddish brown (5YR 3/4), no odor, some gypsum nodules and filaments decreasing with depth
5025.2	10					
5020.2	15				SM	**SILTY SAND,** 75% fine to coarse grained subrounded to subangular sand, 25% fines, rare fine to coarse grained subrounded to subangular gravel, uncemented, no to low plasticity, reddish brown (2.5YR 4/4), wet, no odor, trace gypsum nodules
5015.2	20					

WELL INFORMATION (Construction Details and/or Drilling Remarks)

Depth in Feet: 0, 5, 10, 15, 20

- 3'x3' concrete pad with +3' steel vault monument
- 6" schedule 80 PVC Casing From 2.6' to 17'
- Portland Cement Grout From 0' to 16'
- Bentonite Seal From 11' to 13'
- Transition Sand (20-40 silica sand) From 13' to 14'
- Filter Pack (12-20 silica sand) From 14' to 48'
- 6" schedule 80 PVC Screen (0.020-in slot size) From 17' to 47'

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▽	23.4	---	12/30/2020
▼			

METHOD

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925215	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5015.2	20						20	
5010.2	25						25	
					ML	**SANDY SILT,** 65% fines, 35% predominantly fine grained subrounded sand, uncemented to moderately cemented, low to medium plasticity, reddish brown (5YR 4/4) to dark reddish brown (5YR 3/4), wet, no odor, trace gypsum nodules decreasing with depth note: from 29.5' to 30' fine to coarse grained subrounded to subangular sand lenses		
5005.2	30						30	Filter Pack (12-20 silica sand) From 14' to 48'
						note: from 32' to 35' moist, very stiff, clay increases, sand decreases, predominantly silt		
5000.2	35					note: at 35' wet	35	6" schedule 80 PVC Screen (0.020-in slot size) From 17' to 47'
4995.2	40						40	
					GM	**SILTY GRAVEL WITH SAND,** 55% fine to coarse grained predominantly subrounded gravel, 25% fine to coarse grained subrounded to subangular sand, 20% fines, predominantly uncemented, low plasticity, dark reddish brown (5YR		
4990.2	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▼	23.4	---	12/30/2020
▼			

METHOD

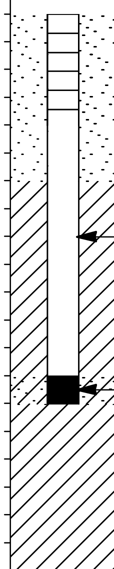
wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925215	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet
4990.2	45					3/3), wet, predominantly very soft, no odors	45
					ML	**GRAVELLY SILT WITH SAND,** 55% fines, 25% fine to coarse grained predominantly subrounded gravel, 20% predominantly fine grained subrounded sand, homogeneous, moderately cemented, medium plasticity, dark reddish brown (5YR 3/4), moist, firm to very firm, no odor	
4985.2	50					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** pale-reddish-brown, very thin to thinly laminated siltstone, interbedded with very thin white gypsum beds note: Dry	50
4980.2	55						55
4975.2	60						60
4970.2	65						65
4965.2	70						70

WELL INFORMATION
(Construction Details and/or Drilling Remarks)



Filter Pack (12-20 silica sand)
From 14' to 48'

6" schedule 80 PVC Casing
From 47' to 52'

PVC End Cap

Bentonite Seal
From 48' to 55'

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▼	23.4	---	12/30/2020
▼			

METHOD ____________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-04

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925216
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429150.44, E669906.4
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5037.18
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5039.93
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/10/2020 **START TIME:** 12:53
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/10/2020 **COMPLETION TIME:** 17:26

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5037.2	0					Hydro-excavated from 0 to 6'	0	3'x3' concrete pad with +3' steel vault monument; Portland Cement Grout From 0' to 5'
5032.2	5						5	6" schedule 80 PVC Casing From 2.6' to 9'; Bentonite Seal From 5' to 7'
						UNABLE TO RETREIVE CORES, too hydrated		Transition Sand (20-40 silica sand) From 7' to 8'
5027.2	10				SM	**SILTY SAND,** 55% fine grained subrounded sand, 40% fines, 5% fine to coarse grained subrounded to subangular gravel, homogeneous, uncemented, non-plastic, reddish-brown (2.5YR 4/4), wet, no odor, occasional gypsum nodules	10	6" schedule 80 PVC Screen (0.020-in slot size) From 9' to 19'
5022.2	15						15	Filter Pack (12-20 silica sand) From 8' to 20'
					GC	**CLAYEY GRAVEL,** 70% fine to coarse grained subrounded to subangular gravel, 20% fines, 10% fine to coarse grained subrounded to subangular sand, moderately cemented, medium plasticity, dark reddish brown (5YR 3/4), predominantly moist, no odor		
5017.2	20						20	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	0.2	15:53	12/13/2020
▼	0.4	08:30	12/18/2020
▼	0.4	---	12/30/2020
▼			

METHOD

(Continued Next Page)

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

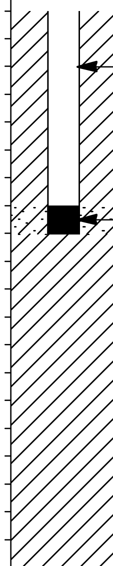
wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-04

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925216	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5017.2	20					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** pale-reddish-brown, very thin to thinly laminated, interbedded with thin bedded white gypsum	20	6" schedule 80 PVC Casing From 19' to 24'
						note: at 24' bedrock came up wet due to high amount of water required for drilling to advance		PVC End Cap
5012.2	25						25	Bentonite Seal From 20' to 30'
5007.2	30						30	
5002.2	35						35	
4997.2	40						40	
4992.2	45						45	



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	0.2	15:53	12/13/2020
▼	0.4	08:30	12/18/2020
▼	0.4	---	12/30/2020
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CR-1R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	R. Markley	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926108
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1433520.34, E656629.68
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5008.0
BORING TYPE:	Cores; **BORING DIA.:** 8-inch	**MEAS. PT. ELEV (FT):**	5009.3
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	04/28/2021; **START TIME:** 14:35
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	04/28/2021; **COMPLETION TIME:** 16:30

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5008.0	0				SC	**CLAYEY SAND,** 85% fine grained sand, 15% fines, low plasticity, strong reaction with HCl, 7.5 YR 4/3 (brown), dry to slightly moist, some plant roots present **Note:** 75% fine grained sand, 25% fines at 1.0 foot	0	
					CL	**SANDY CLAY,** 60% fines, 40% fine grained sand, medium plasticity, strong reaction with HCl, 7.5 YR 3/3 (dark brown), slightly moist **Note:** 75% fines, 25% fine grained sand, medium to high plasticity at 4.0 feet		
5003.0	5						5	Cement grout
4998.0	10						10	
						Note: 5 YR 4/3 (reddish brown) at 13.0 feet		
4993.0	15						15	4" Nominal diameter SCH 80 PVC Casing
					SP-SC	**SAND WITH CLAY,** (continued next page)		
4988.0	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	37.1	N/A	4/28/2021
▼			
▼			
▼			

METHOD ________

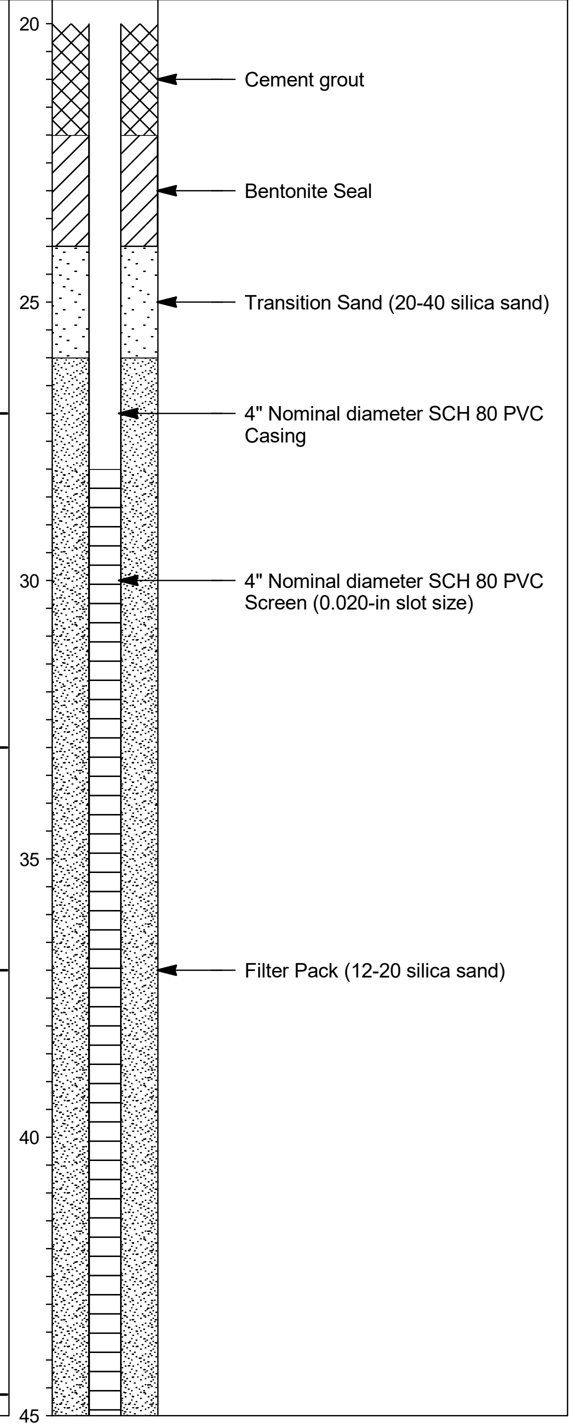
aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CR-1R

PROJECT:	APS Cholla Well Abandonment and Replacement	PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-926108	PROJECT FEATURE:	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
4988.0	20					**SAND WITH CLAY,** 90% fine grained sand, 10% fines, low plasticity, strong reaction with HCl, 5 YR 6/3 (light reddish brown), slightly moist **Note:** fine to medium grained sand at 23.0 feet
4983.0	25					
					SC-SM	**SILTY CLAYEY SAND,** 60% fine grained sand, 40% fines, medium to high plasticity, strong reaction with HCl, 7.5 YR 3/3 (dark brown), moist to wet
4978.0	30					**Note:** 70% fine grained sand, 30% fines, low to medium plasticity at 30.0 feet
					CL	**SANDY CLAY,** 80% fines, 20% fine grained sand, high plasticity, weakly cemented, reacts strongly with HCl, 5 YR 5/4 (reddish brown), moist to wet
4973.0	35					**Note:** 60% fines, 40% medium grained subrounded sand, medium plasticity, 7.5 YR 5/3 (brown) at 35.0 feet
					SP	**SAND,** 80% fine grained sand, 20% medium grained subrounded sand, nonplastic, moderate reaction with HCl, 7.5 YR 5/3 (brown), moist to wet
4968.0	40					**Note:** 80% medium grained subrounded sand, 20% fine grained sand, nonplastic, moderate reaction with HCl, 10 YR 5/2 (grayish brown), moist to wet at 40.0 feet **Note:** 80% medium grained subrounded sand, 10% coarse grained subrounded sand, 10% fine grained sand, nonplastic at 43.0 feet
					CL	**SANDY CLAY,** (continued next page)
4963.0	45					



(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	37.1	N/A	4/28/2021
▼			
▼			
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: CR-1R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926108	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4963.0	45					**SANDY CLAY,** 75% fines, 25% medium grained subrounded sand, high plasticity, strong reaction with HCl, 7.5 YR 5/3 (brown), moist	45	Filter Pack (12-20 silica sand) 4" Nominal diameter SCH 80 PVC Screen (0.020-in slot size) Threaded PVC End Cap
					SP	**SAND,** 80% medium grained subrounded sand, 20% fine grained sand, nonplastic, moderate reaction with HCl, 10 YR 5/2 (grayish brown) **Note:** 70% fine grained sand, 30% medium grained subrounded sand at 47.0 feet **Note:** 80% medium grained subrounded sand, 20% fine grained sand, no reaction with HCl at 47.0 feet **Note:** slight reaction with HCl at 49.0 feet		
4958.0	50						50	
4953.0	55						55	Native Backfill
4948.0	60					**Note:** 60% medium grained subrounded sand, 40% fine grained sand at 62.0 feet	60	
4943.0	65				SP-SM	**SAND with SILT,** 80% fine to medium grained subrounded sand, 10% fines, nonplastic, slight reaction with HCl, 10 YR 5/2 (grayish brown)	65	
						Stopped Core at 67.0 feet		
4938.0	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	37.1	N/A	4/28/2021
▼			
▼			
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-111R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926111
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1429230.07, E669804.44
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5035.1
BORING TYPE:	Cores; **BORING DIA.:** 6-inch	**MEAS. PT. ELEV (FT):**	5037.6
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/15/2021; **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/15/2021; **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5035.1	0					**Hydro-excavated from 0 to 5 Feet**	0	
5030.1	5				CL	**SANDY CLAY,** 60% fines, 40% fine to medium grained subrounded sand, medium to high plasticity, dark brown, moist	5	4" Nominal diameter SCH 80 PVC Casing
5025.1	10						10	Cement Grout
						Note: medium grained sand increases at 14.0 feet		
5020.1	15						15	
					ML	**SANDY SILT,** 65% fines, 35% fine grained sand, medium plasticity, reddish brown, moist		
5015.1	20						20	

(Continued Next Page)

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
15.8	16:10	05/16/2021

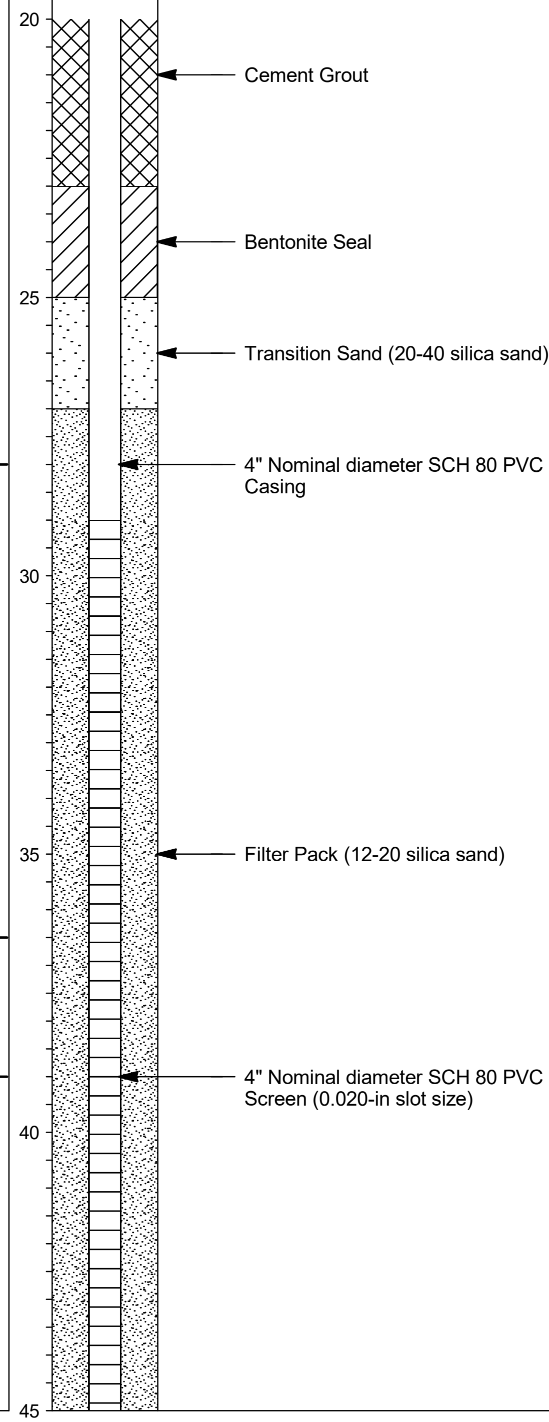
METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926111	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5015.1	20					**SANDY SILT,** continued
5010.1	25					
					CL	**SANDY CLAY,** 70% fines, 30% fine grained sand, high plasticity, moist, reddish brown
5005.1	30					
5000.1	35					
					SM	**SILTY SAND,** 55% very fine grained sand, 45% fines, low to medium plasticity, wet, reddish brown
					CL	**SANDY CLAY,** 55% fines, 35% fine grained sand, 10% well graded subrounded to subangular gravel, medium to high plasticity, reddish brown, moist
4995.1	40					
4990.1	45					

Depth in Feet / **WELL INFORMATION** (Construction Details and/or Drilling Remarks)



(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	15.8	16:10	05/16/2021
▼			
▼			
▼			

METHOD ______

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-111R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926111	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4990.1	45					**SANDY CLAY,** continued **Note:** trace gravel at 46.5 feet **Note:** gravel and coarse grained sand increases, wet at 48.5 feet	45	4" Nominal diameter SCH 80 PVC Screen (0.020-in slot size) Filter Pack (12-20 silica sand) Threaded PVC End Cap
4985.1	50					**BEDROCK MOQUI,** Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominantly brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionaly cross-cuts siltstone and predominantly friable **Note:** trace olive staining at 50 feet Stopped Core at 52.0 feet	50	Filter Pack (12-20 silica sand) to fill bottom of hole
4980.1	55						55	
4975.1	60						60	
4970.1	65						65	
4965.1	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	15.8	16:10	05/16/2021
▼			
▼			
▼			

METHOD ____________

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

BORING LOG I.D.: F-91R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926109
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1429382.48, E669636.5
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5034.3
BORING TYPE:	Cores — **BORING DIA.:** Varies	**MEAS. PT. ELEV (FT):**	5036.4
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/14/2021 — **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/14/2021 — **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5034.3	0					**Hydro-excavated from 0 to 7 Feet**	0	
5029.3	5						5	Cement Grout
	7				SW-SM	**WELL GRADED SAND WITH SILT,** 75% fine to medium grained, subrounded to subangular sand, 15% fines, 10% well graded subrounded to subangular gravel, nonplastic, slightly moist **Note:** interbedded brittle sandy siltstone from 10.5 to 11.5 feet		
5024.3	10						10	
5019.3	15						15	2" Nominal diameter SCH 80 PVC Casing
	17				GW	**WELL GRADED GRAVEL WITH SAND,** 55% well graded subrounded to subangular gravel, 40% coarse grained subrounded to subangular sand, 5% fines, nonplastic, wet		
5014.3	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.5	08:40	05/15/2021
▼			
▼			
▼			

METHOD ______________

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926109	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5014.3	20					**WELL GRADED GRAVEL WITH SAND,** continued	20	
					CL	**CLAY,** 90% fines, 10% fine grained sand, high plasticity, moist, trace cementation filaments/nodules, trace black staining		
5009.3	25						25	2" Nominal diameter SCH 80 PVC Casing
					ML	**SILT,** 90% fines, 10% fine grained subrounded sand, medium to high plasticity, moist		
5004.3	30						30	
4999.3	35						35	Cement Grout
					SM	**SILTY SAND WITH GRAVEL,** 65% well graded subrounded to subangular sand, 20% fines, 15% well graded subrounded to subangular gravel, low to medium plasticity, wet		
4994.3	40						40	
					ML	**SANDY SILT WITH GRAVEL,** 50% fines, 30% fine to medium grained subrounded to subangular sand, 20% well graded subrounded to subangular gravel, low to medium plasticity, moist		
4989.3	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	22.5	08:40	05/15/2021
▼			
▼			
▼			

METHOD ______________

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-91R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926109	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4989.3	45					**SANDY SILT WITH GRAVEL,** continued	45	2" Nominal diameter SCH 80 PVC Casing
4984.3	50					**BEDROCK MOQUI,** Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominantly brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionaly cross-cuts siltstone and predominantly friable **Note:** slightly moist, very brittle, reddish brown claystone interbedded with greenish gray shale from 54.0 to 62.0 feet	50	Bentonite Seal Borehole changes diameter to 7-inch at 52 feet Borehole changes diameter to 6-inch at 54 feet
4979.3	55						55	
4974.3	60					**Note:** dry from 60.0 to 67.0 feet **Note:** brittle reddish brown siltstone interbedded with thin greenish-gray shale bed from 62.0 to 67.0 feet	60	Cement Grout
4969.3	65					**Note:** moist, no gypsum from 67.0 to 69.0 feet	65	Bentonite Seal
4964.3	70						70	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.5	08:40	05/15/2021
▼			
▼			
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

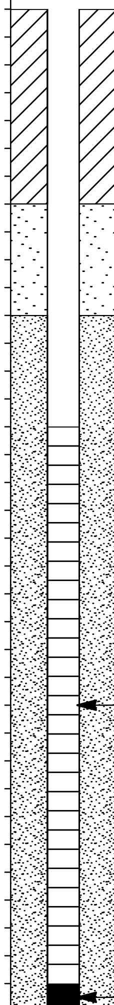
wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-91R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926109	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4964.3	70					**BEDROCK MOQUI,** continued	70	Bentonite Seal
						WUPATKI, very fine-grained silty sandstone		
4959.3	75						75	Transition Sand (20-40 silica sand)
						Note: very fine-grained, massive sandstone from 76.5 to 85.5 feet		
4954.3	80						80	Filter Pack (12-20 silica sand)
						Note: sandstone micaceous and less competent (fractured in weak aveas; thin shalebeds) from 81.0 to 85.5 feet		2" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
4949.3	85					**Note:** moist (in between fractures in sandstone) at 85.0 feet **Note:** brittle to friable claystone interbedded in sandstone from 85.5 to 87.0 feet, wet at 85.5 feet **note:** dry at 86.5 feet	85	Threaded PVC End Cap
						Stopped Core at 88.0 feet		
4944.3	90						90	
4939.3	95						95	



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.5	08:40	05/15/2021
▼			
▼			
▼			

METHOD ____________

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-92R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926110
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1429360.18, E669644.2
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5033.5
BORING TYPE:	Cores; **BORING DIA.:** 6-inch	**MEAS. PT. ELEV (FT):**	5036.0
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/14/2021; **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/14/2021; **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5033.5	0					**Hydro-excavated from 0 to 9 Feet**	0	
5028.5	5						5	2" Nominal diameter SCH 80 PVC Casing
	9				CL	**SANDY CLAY,** 60% fines, 40% fine to medium grained subrounded to subangular sand, medium plasticity, dark brown, moist		
5023.5	10						10	Cement Grout
5018.5	15						15	
	16.5				ML	**SANDY SILT,** 65% fines, 35% fine grained subrounded sand, medium to high plasticity, reddish brown, moist		
5013.5	20						20	

(Continued Next Page)

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
19.9	13:45	05/14/2021

METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-92R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926110	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5013.5	20					**SANDY SILT,** continued
5008.5	25					
5003.5	30					
4998.5	35					**Note:** medium grained sand increases at 36.5 feet
4993.5	40					**Note:** trace subrounded to subangular gravel
					GC	**CLAYEY GRAVEL,** 50% well graded subrounded to subangular gravel, 30% well graded subrounded to subangular sand, 20% fines, low to medium plasticity, dark brown to reddish brown, moist to wet
4988.5	45					

Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
20	Cement Grout
	Bentonite Seal
	Transition Sand (20-40 silica sand)
25	2" Nominal diameter SCH 80 PVC Casing
30	
	Filter Pack (12-20 silica sand)
35	
	2" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
40	
45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	19.9	13:45	05/14/2021
▼			
▼			
▼			

METHOD ____________

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: F-92R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926110	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4988.5	45					**Note:** trace gypsum nodules at 4.06 feet **Note:** wet from 46.5 to 47.5 feet **Note:** clay lense from 47.5 to 48.0 feet	45	2" Nominal diameter SCH 80 PVC Screen (0.020-in slot size) Filter Pack (12-20 silica sand) Threaded PVC End Cap
						BEDROCK MOQUI, Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominantly brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionaly cross-cuts siltstone and predominantly friable		Bentonite Seal
4983.5	50					Stopped Core at 50.0 feet	50	
4978.5	55						55	
4973.5	60						60	
4968.5	65						65	
4963.5	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	19.9	13:45	05/14/2021
▼			
▼			
▼			

METHOD __________

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: GSX-01R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926115
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1429195.62, E669842.67
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5035.8
BORING TYPE:	Cores; **BORING DIA.:** 10-inch	**MEAS. PT. ELEV (FT):**	5037.1
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/16/2021; **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/16/2021; **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5035.8	0					**Hydro-excavated from 0 to 6 Feet**	0	
5030.8	5						5	6" Nominal diameter SCH 80 PVC Casing
					SM	**SILTY SAND,** 75% well graded subrounded to subangular sand, 25% fines, nonplastic, reddish brown, wet		
					ML	**SANDY SILT,** 70% fines, 30% fine to medium grained, subrounded to subangular sand, medium plasticity, reddish brown, moist to wet		
5025.8	10						10	Cement Grout
					CL	**SANDY CLAY.** 80% fines, 20% fine grained sand, medium to high plasticity, dark reddish brown, moist		
5020.8	15						15	
					SM	**SILTY SAND,** 60% fine grained sand, 40% fines, medium plasticity, reddish brown, wet, some cementation nodules		
5015.8	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	Dry	N/A	N/A
▼			
▼			
▼			

METHOD ______________

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: GSX-01R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926115	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5015.8	20					**SILTY SAND,** continued	20	Cement Grout
					ML	**SANDY SILT,** 60% fines, 40% fine grained sand, medium plasticity, reddish brown, moist, trace cementation filaments/nodules		Bentonite Seal
5010.8	25					**Note:** trace gravel at 25.0 feet	25	Transition Sand (20-40 silica sand)
						Note: wet at 28.0 feet		6" Nominal diameter SCH 80 PVC Casing
					CL	**SANDY CLAY,** 80% fines, 20% fine grained sand, medium to high plasticity, dark reddish brown, moist		
5005.8	30						30	
5000.8	35						35	6" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
								Filter Pack (12-20 silica sand)
4995.8	40						40	
						Note: some gravel at 43.5 feet		
4990.8	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	Dry	N/A	N/A
▼			
▼			
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: GSX-01R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926115	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4990.8	45					**SANDY CLAY,** continued	45	6" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
					SM	**SILTY SAND WITH GRAVEL,** 45% coarse grained subrounded to subangular sand, 40% well graded subrounded gravel, 15% fines, nonplastic to low plasticity, dark reddish brown, wet		Filter Pack (12-20 silica sand)
4985.8	50					**BEDROCK MOQUI,** Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominantly brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionaly cross-cuts siltstone and predominantly friable **Note:** moist moqui from 49.5 to 51.5 feet **Note:** slightly moist to dry from 51.5 to 53 feet **Note:** interbedded greenish gray shale from 52 to 53 feet	50	6" Nominal diameter SCH 80 PVC sump Bentonite Seal Threaded PVC End Cap
4980.8	55					Stopped Core at 54.0 feet	55	
4975.8	60						60	
4970.8	65						65	
4965.8	70						70	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
Dry	N/A	N/A

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

wood.

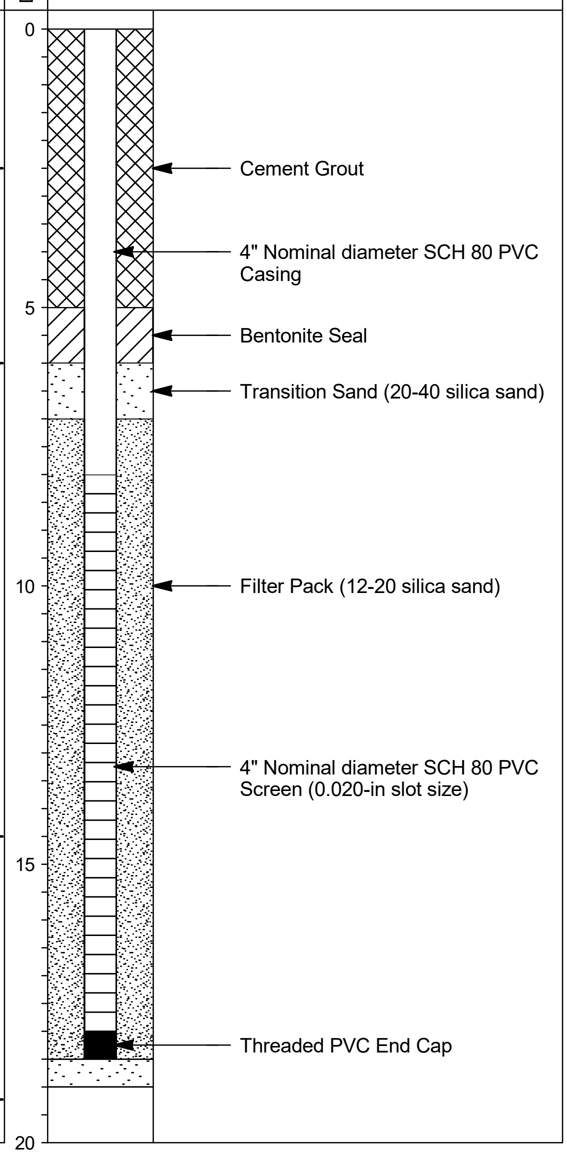
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: W-123R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926116
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1429137.31, E669931.05
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5038.5
BORING TYPE:	Cores — **BORING DIA.:** 8-inch	**MEAS. PT. ELEV (FT):**	5040.3
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/12/2021 — **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/12/2021 — **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5038.5	0				GC	**CLAYEY SAND,** 70% well graded subrounded to subangular gravel, 20% fines, 10% fine grained sand, low plasticity, reddish brown, moist, greenish-gray, staining, gravel decrease with depth
					ML	**SILT WITH SAND,** 90% fines, 10% fine grained sand, low plasticity, moist, reddish brown, trace gypsum filaments/nodules, some black staining
5033.5	5					
					ML	**SANDY SILT,** 65% fines, 35% medium grained subrounded to subangular sand, nonplastic, reddish brown, wet
5028.5	10					
5023.5	15					**BEDROCK MOQUI,** Interbedded siltstone and gypsum. Siltstone is pale reddish brown to reddish brown, thinly laminated, may contain greenish gray bands, competency varies (predominantly brittle to friable and occasionally competent). Gypsum is white thinly bedded, thinly laminated, occasionaly cross-cuts siltstone and predominantly friable **Note:** slightly moist (likely due to wet barrel) but mostly dry at 15.5 Feet
						Stopped Core at 19.0 feet
5018.5	20					

WELL INFORMATION
(Construction Details and/or Drilling Remarks)



GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
2.9	06:40	05/13/2021

METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

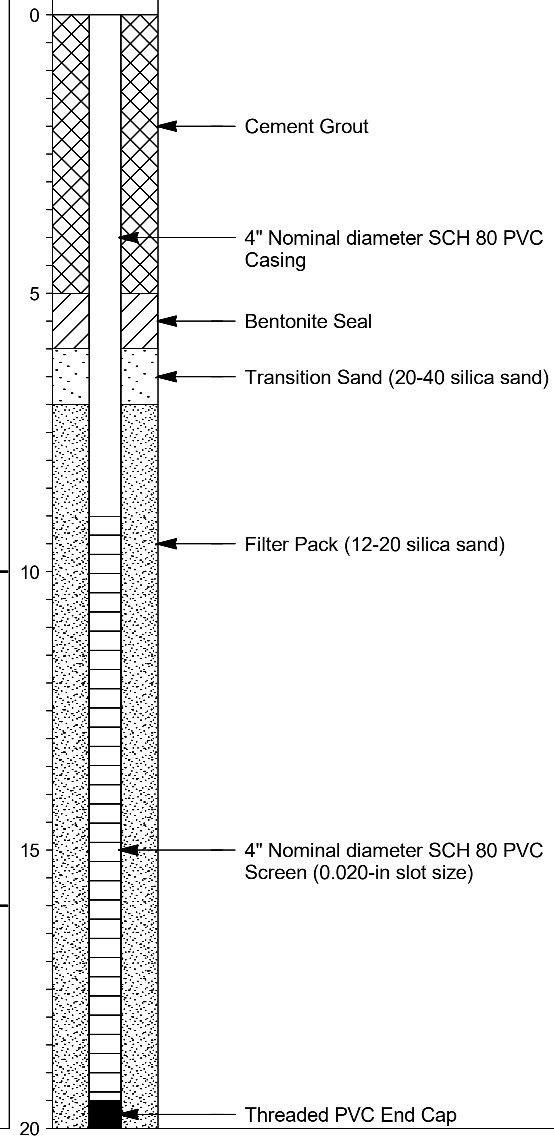
wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: W-126R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	M. Wuollet	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926120
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1428727.16, E669697.63
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5029.6
BORING TYPE:	Cores — **BORING DIA.:** 8-inch	**MEAS. PT. ELEV (FT):**	5031.1
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	05/03/2021 — **START TIME:** 10:18
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	05/03/2021 — **COMPLETION TIME:** 01:06

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5029.6	0					**Hydro-excavated from 0 to 10 Feet**
5024.6	5					
5019.6	10				ML	**SANDY SILT,** 75% fines, 20% fine to medium grained subrounded sand, 5% fine grained subrounded gravel, low plasticity, 2.5YR 4/2 (medium red-brown), wet
5014.6	15					
	16					**BEDROCK MOQUI,** red-brown thinly laminated with pale grey-green siltstone, interbedded with ~0.1 to 0.4 Inches thick gypsum layers between 17.5 and 18 feet, wet, highly weathered into mostly silty matrix from 16 to 17 feet, dry and friable from 17.0 to 27.0 feet
5009.6	20					

WELL INFORMATION
(Construction Details and/or Drilling Remarks)



(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	3.9	N/A	05/03/2021
▼			
▼			
▼			

METHOD ______

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926120	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5009.6	20					**BEDROCK MOQUI,** continued	20	
								Bentonite Seal
5004.6	25						25	
						Stopped Core at 27.0 feet		
4999.6	30						30	
4994.6	35						35	
4989.6	40						40	
4984.6	45						45	

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
3.9	N/A	05/03/2021

METHOD __________

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: W-307R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	M. Henley	**PROJECT FEATURE:**	Replacement Well
LOGGED BY:	I. Torres	**WOOD PROJECT #:**	14-2021-4011
DRILLER:	R. Sawrey	**ADWR REG. #:**	55-926816
DRILLER FIRM:	Boart Longyear	**COORDINATES:**	N1437018.69, E664515.77
RIG I.D.:	7939	**COORDINATE SYS:**	NAD83 AZ, East International Feet
RIG TYPE:	Rotosonic LS 600	**SURFACE ELEV. (FT):**	5045.3
BORING TYPE:	Cores; **BORING DIA.:** 8-inch	**MEAS. PT. ELEV (FT):**	5047.6
ORIENTATION:	90°	**VERTICAL DATUM:**	N/A
HAMMER TYPE:	N/A	**START DATE:**	10/04/2021; **START TIME:** ---
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	N/A	**COMPLETION DATE:**	10/04/2021; **COMPLETION TIME:** ---

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5045.3	0				ML	**SILT WITH SAND,** 80% fines, 20% fine grained sand, nonplastic, 5 YR 4/2 (dark reddish gray), slightly moist, trace cementaion nodules	0	
5040.3	5				SP	**SAND,** 95% fine grained sand, 5% fines, nonplastic, 5 YR 5/2 (reddish gray) to 5 YR 4/2 (dark reddish gray) , slightly moist	5	Cement grout
5035.3	10						10	
5030.3	15						15	4" Nominal diameter SCH 80 PVC Casing
					SP	**SAND WITH GRAVEL,** 60% fine to medium grained subrounded to		
5025.3	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	07:30	10/11/2021
▼			
▼			
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926816	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5025.3	20					subangular sand, 35% well graded subrounded to subangular gravel, 5% fines, nonplastic, 5 YR 3/3 (dark reddish brown), wet	20	Cement grout
5020.3	25						25	
					SC	**CLAYEY SAND,** 60% fine to medium grained subrounded to subangular sand, 40% fines, medium to hight plasticity, 2.5 YR 5/2 (weak red), moist to wet		4" Nominal diameter SCH 80 PVC Casing Bentonite Seal
5015.3	30						30	
					SP-SM	**SAND WITH SILT,** 80% medium grained subrounded to rounded sand, 20% fines, nonplastic, 5 YR 3/3 (dark reddish brown), wet		Filter Pack (12-20 silica sand)
5010.3	35						35	
					SP	**SAND WITH GRAVEL,** 75% medium to coarse grained subrounded to subangular sand, 20% well graded subrounded to subangular gravel, 5% fines, nonplastic, 5 YR 3/3 (dark reddish brown), wet		
5005.3	40						40	4" Nominal diameter SCH 80 PVC Screen (0.020-in slot size)
					SC	**CLAYEY SAND WITH GRAVEL,** 50% well graded subrounded to subangular sand, 30% well graded subrounded to subangular gravel, 20% fines, low to medium plasticity, 5 YR 3/3 (dark reddish brown), wet		
5000.3	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	07:30	10/11/2021
▼			
▼			
▼			

METHOD

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

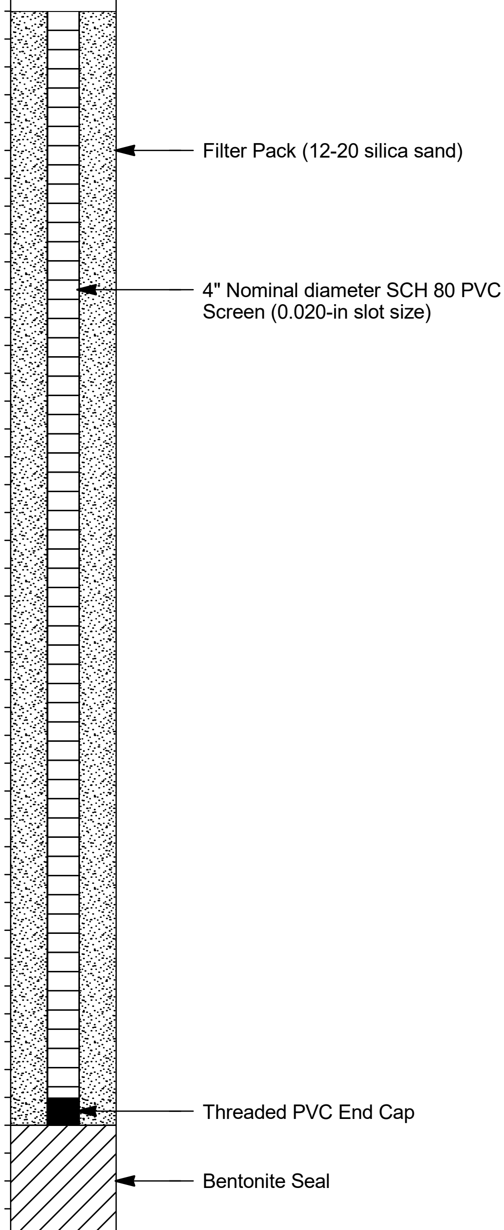
BORING LOG I.D.: W-307R

PROJECT:	APS Cholla Well Abandonment and Replacement	**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-926816	**PROJECT FEATURE:**	Replacement Well

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5000.3	45					
4995.3	50					
4990.3	55					
					SW	**WELL GRADED SAND WITH GRAVEL,** 60% well graded subrounded to subangular sand, 35% well graded subrounded to subangular gravel, 5% fines, nonplastic, 5 YR 3/3 (dark reddish brown), wet
4985.3	60					
4980.3	65					
						Stopped Core at 67.0 feet
4975.3	70					

WELL INFORMATION (Construction Details and/or Drilling Remarks)

Depth in Feet: 45, 50, 55, 60, 65, 70



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	07:30	10/11/2021
▼			
▼			
▼			

METHOD ______________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Appendix B

Photograph Log

Photograph 1 4/28/21 CR-1 prior to abandonment	

Photograph 2 Date unknown (photo from APS) W-123 prior to abandonment	

Photograph 3 Date unknown (photo from APS) W-126 prior to abandonment	

Photograph 4 Date unknown (photo from APS) GSX-1 prior to abandonment	

Photograph 5 Date unknown (photo from APS) GSX-2 prior to abandonment	

Photograph 6 Date unknown (photo from APS) F-111 prior to abandonment		

Photograph 7 Date unknown (photo from APS) F-91 prior to abandonment	

Photograph 8 Date unknown (photo from APS) F-92 prior to abandonment	

APS Cholla Well Abandonment and Replacement
Photographic Log

Photograph 9 4/28/21 Forklift used for well abandonment activities (ID number: 10977722)	

Photograph 10 4/28/21 Track-mounted rotosonic drill rig used for well abandonment and replacement activities (ID number: 7939)	

APS Cholla Well Abandonment and Replacement Photographic Log

Photograph 11

4/28/21

Support truck used for well abandonment and replacement activities (ID number: 429)

Photograph 12 4/28/21 Laydown area for materials used for well abandonment and replacement	

Photograph 13 & 14

4/28/21

Materials used for grout mixture for well abandonments and replacement well seals

Photograph 15 & 16

4/30/21

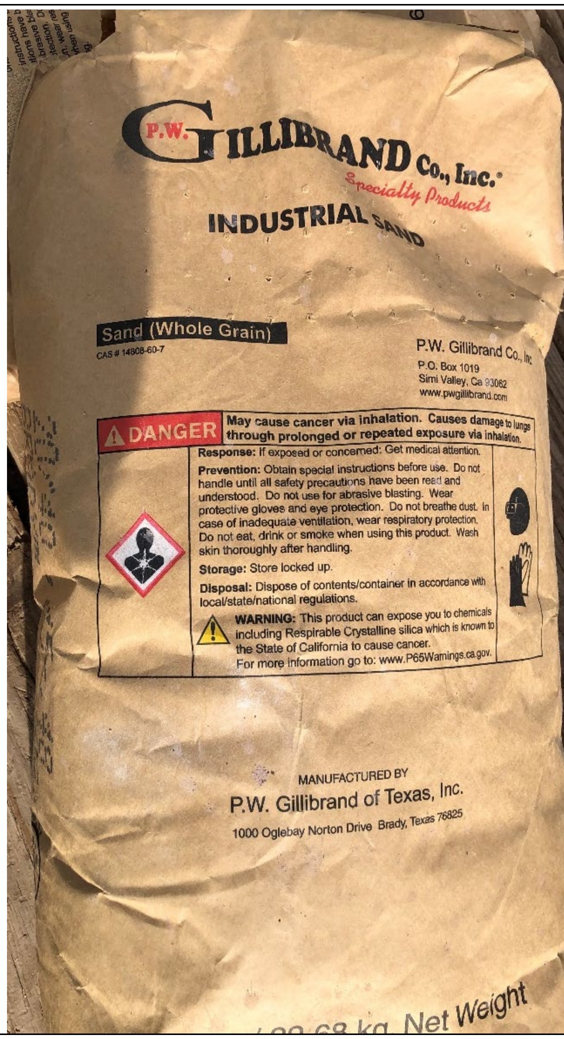
Examples of materials used for replacement well casings and screens

APS Cholla Well Abandonment and Replacement Photographic Log

Photograph 17 & 18

5/1/21

Examples of materials used for replacement well annular fill (see also Photos 14 & 15 for grout materials)



Photograph 19 & 20 4/30/21 Examples of materials used for replacement well vaults and surface completions	

Photograph 21 4/29/21 Subcontractor (Boart Longyear) site safety signage	

Photograph 22

4/29/21

Example of well completion surface abandonment activities (CR-1 surface monument)

Photograph 23

4/29/21

Rotosonic drill rig set up over CR-1 for overdrilling and abandonment grout pouring

Photograph 24 5/3/21 Example of well casing removal activities (W-126 inner PVC well casing and screen)	

Photograph 25 5/3/21 Example of fully removed well (W-126 surface casing and seal, and PVC casing and screen)	

Photograph 26 5/20/21 CR-1 abandonment monument	

Photograph 27 5/19/21 W-123 abandonment monument	

Photograph 28 5/20/21 W-126 abandonment monument	

Photograph 29 5/19/21 GSX-1 abandonment monument	

Photograph 30 5/19/21 GSX-2 abandonment monument	

Photograph 31 5/19/21 F-111 abandonment monument	

Photograph 32 5/19/21 F-91 abandonment monument	

Photograph 33 5/19/21 F-92 abandonment monument	

Photograph 34 4/26/21 Example of utility locating activities for replacement wells (Location of GSX-1R, note drill site of GSX-1R marked with orange stake)	

Photograph 35 4/30/21 Example of hydro-excavation activities prior to start of all rotosonic drilling (Location of W-126R, note W-126 yet to be abandoned to right)	

Photograph 36 4/28/21 Example of rotosonic drilling activities for replacement well drilling (Location of CR-1R, note the track-mounted rig from Photo 11 was used for all well drilling)	

Photograph 37 5/20/21 CR-1R completed	
Photograph 38 5/19/21 W-123R completed	

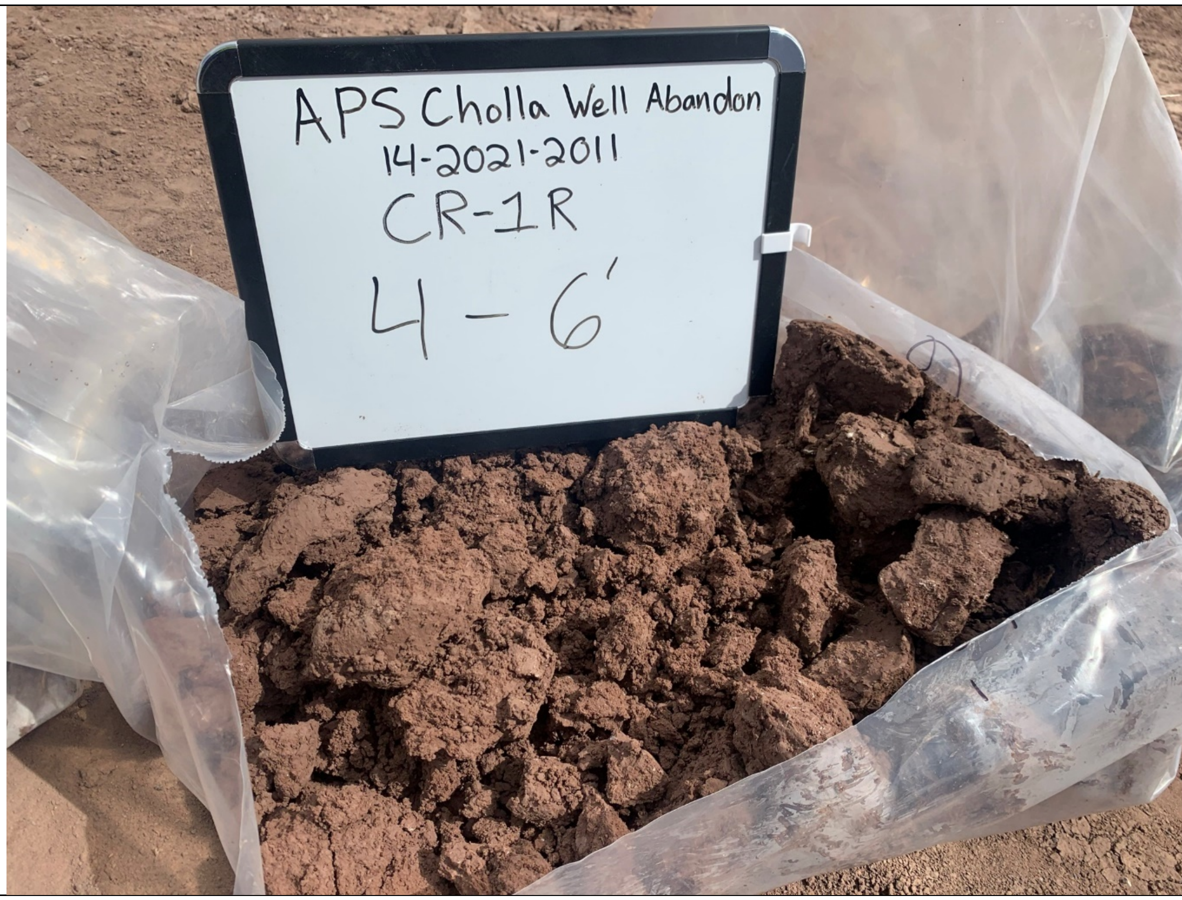
Photograph 39 5/20/21 W-126R completed		
Photograph 40 5/19/21 GSX-1R completed		

Photograph 41 5/19/21 F-111R completed	 
Photograph 42 5/19/21 F-91R completed	 

Photograph 43 5/19/21 F-92R completed	 

Photograph 1 4/28/21 CR-1R drill core sample from 0 to 2 ft bgs	

Photograph 2 4/28/21 CR-1R drill core sample from 2 to 4 ft bgs	

Photograph 3 4/28/21 CR-1R drill core sample from 4 to 6 ft bgs	

Photograph 4 4/28/21 CR-1R drill core sample from 6 to 7 ft bgs	

Photograph 5 4/28/21 CR-1R drill core sample from 7 to 9 ft bgs	

Photograph 6 4/28/21 CR-1R drill core sample from 9 to 11 ft bgs	

Photograph 7 4/28/21 CR-1R drill core sample from 11 to 13 ft bgs	

Photograph 8 4/28/21 CR-1R drill core sample from 13 to 15 ft bgs	

Photograph 9

4/28/21

CR-1R drill core sample from 15 to 17 ft bgs

Photograph 10 4/28/21 CR-1R drill core sample from 17 to 19 ft bgs	

Photograph 11 4/28/21 CR-1R drill core sample from 19 to 21 ft bgs	

Photograph 12 4/28/21 CR-1R drill core sample from 21 to 23 ft bgs	

Photograph 13 4/28/21 CR-1R drill core sample from 23 to 25 ft bgs	

Photograph 14 4/28/21 CR-1R drill core sample from 25 to 27 ft bgs	

Photograph 15 4/28/21 CR-1R drill core sample from 27 to 29 ft bgs	

Photograph 16 4/28/21 CR-1R drill core sample from 29 to 31 ft bgs	

Photograph 17 4/28/21 CR-1R drill core sample from 31 to 33 ft bgs	

Photograph 18 4/28/21 CR-1R drill core sample from 33 to 35 ft bgs	

Photograph 19 4/28/21 CR-1R drill core sample from 35 to 37 ft bgs	

Photograph 20 4/28/21 CR-1R drill core sample from 37 to 39 ft bgs	

Photograph 21 4/28/21 CR-1R drill core sample from 39 to 41 ft bgs	

Photograph 22 4/28/21 CR-1R drill core sample from 41 to 43 ft bgs	

Photograph 23 4/28/21 CR-1R drill core sample from 43 to 45 ft bgs	

Photograph 24 4/28/21 CR-1R drill core sample from 45 to 47 ft bgs	

Photograph 25 4/28/21 CR-1R drill core sample from 47 to 49 ft bgs	

Photograph 26 4/28/21 CR-1R drill core sample from 49 to 51 ft bgs	

Photograph 27 4/28/21 CR-1R drill core sample from 51 to 53 ft bgs	

Photograph 28 4/28/21 CR-1R drill core sample from 53 to 55 ft bgs	

Photograph 29 4/28/21 CR-1R drill core sample from 55 to 57 ft bgs	

Photograph 30 4/28/21 CR-1R drill core sample from 57 to 59 ft bgs	

Photograph 31 4/28/21 CR-1R drill core sample from 59 to 61 ft bgs	

Photograph 32 4/28/21 CR-1R drill core sample from 61 to 65 ft bgs	

Photograph 33 4/28/21 CR-1R drill core sample from 63 to 65 ft bgs	

Photograph 34 4/28/21 CR-1R drill core sample from 65 to 67 ft bgs	

APS Cholla F-91R Core Photographic Log

Photograph 1 5/13/21 F-91R drill core sample from 7 to 11 ft bgs	
Photograph 2 5/13/21 F-91R drill core sample from 11 to 15 ft bgs	

<table>
<tr><td>Photograph 3

5/13/21

F-91R drill core sample from 15 to 19 ft bgs</td><td>
</td></tr>
<tr><td>Photograph 4

5/13/21

F-91R drill core sample from 19 to 23 ft bgs</td><td>
</td></tr>
</table>

Photograph 5 5/13/21 F-91R drill core sample from 23 to 27 ft bgs	
Photograph 6 5/13/21 F-91R drill core sample from 27 to 31 ft bgs	

Photograph 7 5/13/21 F-91R drill core sample from 31 to 35 ft bgs	
Photograph 8 5/13/21 F-91R drill core sample from 35 to 39 ft bgs	

Photograph 9 5/13/21 F-91R drill core sample from 39 to 43 ft bgs	
Photograph 10 5/13/21 F-91R drill core sample from 43 to 47 ft bgs	

APS Cholla F-91R Core Photographic Log

Photograph 11 5/13/21 F-91R drill core sample from 47 to 52 ft bgs	
Photograph 12 5/13/21 F-91R drill core sample from 52 to 54 ft bgs	

Photograph 13 5/13/21 F-91R drill core sample from 54 to 59 ft bgs	
Photograph 14 5/13/21 F-91R drill core sample from 59 to 63 ft bgs	

Photograph 15 5/13/21 F-91R drill core sample from 63 to 67 ft bgs	
Photograph 16 5/13/21 F-91R drill core sample from 67 to 72 ft bgs	

Photograph 17 5/13/21 F-91R drill core sample from 72 to 76 ft bgs	
Photograph 18 5/13/21 F-91R drill core sample from 76 to 81 ft bgs	

Photograph 19 5/13/21 F-91R drill core sample from 81 to 86 ft bgs	
Photograph 20 5/13/21 F-91R drill core sample from 86 to 88 ft bgs	

APS Cholla F-92R Core Photographic Log

Photograph 1 5/14/21 F-92R drill core sample from 9 to 11.5 ft bgs	
Photograph 2 5/14/21 F-92R drill core sample from 11.5 to 16.5 ft bgs	

Photograph 3 5/14/21 F-92R drill core sample from 16.5 to 21.5 ft bgs	
Photograph 4 5/14/21 F-92R drill core sample from 21.5 to 26.5 ft bgs	

Photograph 5 5/14/21 F-92R drill core sample from 26.5 to 31.5 ft bgs	
Photograph 6 5/14/21 F-92R drill core sample from 31.5 to 36.5 ft bgs	

Photograph 7 5/14/21 F-92R drill core sample from 36.5 to 41.5 ft bgs	
Photograph 8 5/14/21 F-92R drill core sample from 41.5 to 46.5 ft bgs	

Photograph 9 5/14/21 F-92R drill core sample from 46.5 to 50 ft bgs	

APS Cholla F-111R Core Photographic Log

<table>
<tr>
<td>Photograph 1

5/15/21

F-111R drill core sample from 5 to 9.5 ft bgs</td>
<td>
</td>
</tr>
<tr>
<td>Photograph 2

5/15/21

F-111R drill core sample from 9.5 to 14.5 ft bgs</td>
<td>
</td>
</tr>
</table>

Photograph 3 5/15/21 F-111R drill core sample from 14.5 to 19.5 ft bgs	
Photograph 4 5/15/21 F-111R drill core sample from 19.5 to 24.5 ft bgs	

Photograph 5 5/15/21 F-111R drill core sample from 24.5 to 29.5 ft bgs	
Photograph 6 5/15/21 F-111R drill core sample from 29.5 to 34.5 ft bgs	

Photograph 7 5/15/21 F-111R drill core sample from 34.5 to 39.5 ft bgs	
Photograph 8 5/15/21 F-111R drill core sample from 39.5 to 44.5 ft bgs	

Photograph 9 5/15/21 F-111R drill core sample from 44.5 to 49.5 ft bgs	
Photograph 10 5/15/21 F-111R drill core sample from 49.5 to 52 ft bgs	

Photograph 1 5/16/21 GSX-1R drill core sample from 6 to 10 ft bgs	
Photograph 2 5/16/21 GSX-1R drill core sample from 10 to 14 ft bgs	

Photograph 3 5/16/21 GSX-1R drill core sample from 14 to 17 ft bgs	
Photograph 4 5/16/21 GSX-1R drill core sample from 17 to 21 ft bgs	

Photograph 5 5/16/21 GSX-1R drill core sample from 21 to 25 ft bgs	
Photograph 6 5/16/21 GSX-1R drill core sample from 25 to 29 ft bgs	

Photograph 7 5/16/21 GSX-1R drill core sample from 29 to 33 ft bgs	
Photograph 8 5/16/21 GSX-1R drill core sample from 33 to 37 ft bgs	

Photograph 9 5/16/21 GSX-1R drill core sample from 37 to 41 ft bgs	
Photograph 10 5/16/21 GSX-1R drill core sample from 41 to 45 ft bgs	

Photograph 11 5/16/21 GSX-1R drill core sample from 45 to 49 ft bgs	
Photograph 12 5/16/21 GSX-1R drill core sample from 49 to 52 ft bgs	

Photograph 13 5/16/21 GSX-1R drill core sample from 52 to 53 ft bgs	

APS Cholla W-123R Core Photographic Log

Photograph 1 5/12/21 W-123R drill core sample from 0 to 4 ft bgs	
Photograph 2 5/12/21 W-123R drill core sample from 4 to 7 ft bgs	

Photograph 3 5/12/21 W-123R drill core sample from 7 to 11 ft bgs	
Photograph 4 5/12/21 W-123R drill core sample from 11 to 15 ft bgs	

Photograph 5 5/12/21 W-123R drill core sample from 15 to 19 ft bgs	

APS Cholla W-126R Core Photographic Log

Photograph 1 5/3/21 W-126R drill core sample from 10 to 12 ft bgs	

Photograph 2 5/3/21 W-126R drill core sample from 12 to 14 ft bgs	
Photograph 3 5/3/21 W-126R drill core sample from 14 to 16 ft bgs	

APS Cholla W-126R Core Photographic Log

Photograph 4 5/3/21 W-126R drill core sample from 16 to 18 ft bgs	

Photograph 5 5/3/21 W-126R drill core sample close up at approximately 18 ft bgs	
Photograph 6 5/3/21 W-126R drill core sample from 18 to 20 ft bgs	

Photograph 7 5/3/21 W-126R drill core sample from 20 to 22 ft bgs	
Photograph 8 5/3/21 W-126R drill core sample from 22 to 24.5 ft bgs	

Photograph 9 5/3/21 W-126R drill core sample from 24.5 to 25.5 ft bgs	

Photograph 10 5/3/21 W-126R drill core sample from 25.5 to 27.5 ft bgs (note mismarked on board)	

Appendix C

Well Survey Report

Martin H. Martin, LS
1612 N. Transwestern
Pump Rd.
Bellemont, AZ 86015
928-853-2298 Main

Serving Northern Arizona
since 1986.

Date: November 8, 2021

Mari Wuollet
Wood, PLC
4600 E. Washington – Suite 600
Phoenix, AZ 85034

Mari:

Attached is the coordinate and elevation list for the wells we recently surveyed. The data is in pdf and excel format.

Please note that the data is in State Plane Coordinates, Arizona, East Zone., International Feet.

If you have any questions, please give me a call.

Sincerely,

Martin H. Martin, LS

Monitor Well Data - Cholla Power Plant - November 8, 2021

MLS #	Northing	Easting	Elevation	Description
Column1	Column2	Column3	Column4	Column5
1	1428633.47	671977.79	5121.09	FBC_BASE
158	1429140.75	669925.27	5038.75	W-123_ABAND_MON
159	1429137.31	669931.05	5040.33	W-123_PVC
160	1429136.99	669930.89	5041.06	W-123_CASING
161	1429137.62	669931.36	5038.83	W-123_PAD
162	1429150.37	669906.37	5039.96	EW-04_PVC
163	1429150.14	669906.08	5040.50	EW-04_CASING
164	1429150.79	669906.64	5037.58	EW-04_PAD
165	1429199.49	669836.29	5036.07	GSX-1_ABAND_MON
166	1429195.62	669842.67	5037.06	GSX-1R_PVC
167	1429195.42	669842.58	5037.97	GSX-1R_CASING
168	1429195.95	669842.98	5036.10	GSX-1R_CONC_PAD
169	1429208.07	669823.16	5035.54	F-111_ABAND_MON
170	1429220.98	669814.29	5035.74	GSX-2_ABAND_MON
171	1429230.07	669804.44	5037.63	F-111R_PVC
172	1429229.97	669804.63	5038.46	F-111R_CASING
173	1429230.49	669805.07	5035.54	F-111R_CONC_PAD
174	1429265.86	669767.17	5035.31	MW_OLD
175	1429291.74	669761.19	5037.36	W-124_PVC
176	1429291.67	669761.31	5038.67	W-124_CASING
177	1429292.00	669761.42	5035.85	W-124_CONC_PAD
178	1429311.68	669741.28	5038.55	W-125_PVC
179	1429311.42	669741.09	5038.98	W-125_CASING
180	1429311.95	669741.36	5036.02	W-125_CONC_PAD
181	1429361.55	669646.39	5034.08	F-91_ABAND_WELL
182	1429360.18	669644.20	5036.02	F-92R_PVC
183	1429360.04	669644.09	5036.77	F-92R_CASING
184	1429360.36	669644.53	5033.89	F-92R_CONC_PAD
185	1429378.56	669640.66	5034.34	MW_OLD
186	1429382.48	669636.50	5036.43	F-191R_PVC
187	1429382.50	669636.46	5037.20	F-191R_CASING
188	1429382.76	669636.74	5034.67	F-191R_CONC_PAD
189	1429350.53	669626.61	5032.89	F-92.-ABAND_MON
190	1429434.12	669577.85	5035.32	VWP-17_PVC
191	1429318.22	669705.73	5036.62	EW-02_PVC
192	1429311.96	669708.28	5034.23	MW_OLD_LID
193	1428722.64	669678.87	5029.91	W-126_ABAND_MON
194	1428727.16	669697.63	5031.12	W-126R_PVC
195	1428726.97	669697.36	5031.71	W-126R_CASING

196	1428727.34	669698.06	5030.19	W-126R_CONC_PAD
197	1425910.48	667856.81	5024.47	M-49A_PVC
198	1425910.25	667856.68	5024.71	M-49A_CASING
199	1425910.90	667857.20	5022.76	M-49A_CONC_PAD
200	1439205.85	657265.06	5088.09	RANDEL2
201	1439228.99	657275.88	5088.18	RANDEL2_RM3
202	1434533.03	662456.22	5033.48	CK_HELIPAD
203	1439205.85	657265.06	5088.09	BASE_RANDELL
204	1435353.30	661886.56	5040.07	NGS_F504_5040.07'Rec
205	1435629.72	662325.92	5036.32	MW78A_PVC
206	1435629.59	662325.83	5036.95	MW78A_CASING
207	1435630.29	662326.00	5035.05	MW78A_CONC_PAD
208	1437480.01	663027.62	5048.81	BSX02_PVC
209	1437479.72	663027.54	5049.62	BSX02_CASING
210	1437480.46	663027.71	5048.26	BSX02_CONC_PAD
211	1437585.37	662498.33	5045.37	BSX01_PVC
212	1437585.11	662498.36	5045.93	BSX01_CASING
213	1437585.91	662498.19	5044.41	BSX01_CONC_PAD
214	1437438.71	663617.45	5050.67	BSX03_PVC
215	1437438.55	663617.42	5051.13	BSX03_CASING
216	1437439.39	663617.61	5049.60	BSX03_COMC_PAD
217	1437462.10	663637.44	5050.83	MW-69A_PVC
218	1437524.45	664098.69	5049.67	MW-72M_PVC
219	1437524.26	664098.71	5050.54	MW-72M_VLT
220	1437532.71	664108.67	5050.15	MW-71A_PVC
221	1437532.51	664108.48	5050.68	MW-71A_VLT
222	1437781.10	664718.60	5049.19	MW-73A_PVC
223	1437780.85	664718.63	5049.66	MW-73A_VLT
224	1437799.01	664725.63	5049.07	MW-74M_PVC
225	1437798.77	664725.65	5049.74	MW-74M_VLT
226	1438299.48	664646.24	5055.14	BSX04_PVC
227	1438299.27	664646.20	5056.18	BSX04_CASING
228	1438300.07	664645.86	5054.63	BSX04_CONC_PAD
229	1438228.86	664628.79	5055.47	BSX05_PVC
230	1438228.76	664628.76	5056.37	BSX05_CASING
231	1438228.88	664627.94	5054.84	BSX05_COMC
232	1438490.10	664780.41	5054.64	W312_PVC
233	1438466.44	664755.04	5053.95	W313_PVC
234	1438513.76	664805.37	5053.89	W314_PVC
235	1436491.72	662905.52	5040.30	MW79A_PVC
236	1436491.51	662905.41	5040.89	MW79A_CASING
237	1436492.32	662905.44	5038.24	MW79A_CONC_PAD
238	1437018.69	664515.77	5047.61	W307R_PVC

239	1437018.38	664515.74	5048.33	W307R_CASING
240	1437017.79	664516.24	5045.10	W307R_CONC_PAD
241	1437006.25	664502.14	5046.04	W307_ABAND_MON
242	1435552.54	661287.32	5031.02	MW77A_PVC
243	1435552.47	661287.17	5031.72	MW77A_CASING
244	1435552.86	661287.65	5029.78	MW77A_CONC_PAD
245	1434394.87	662510.30	5033.39	MW76A_PVC
246	1434394.65	662510.18	5033.89	MW76A_CASING
247	1434395.40	662510.47	5032.24	MW76A_COBC_PAD
248	1434533.00	662456.22	5033.47	CK_STA_HELI
249	1433520.34	656629.68	5009.25	CR-1R_PVC
250	1433520.25	656629.94	5010.02	CR-1R_CASING
251	1433521.07	656629.58	5007.90	CR-1R_CONC_PAD
252	1433475.86	656616.45	5005.83	CR-1_ABAND_MON
253	1434030.45	647702.16	4991.47	M-64A_PVC
254	1434030.23	647702.17	4991.96	M-64A_CASING
255	1434030.71	647702.85	4989.54	M-64A_CONC_PAD
256	1433978.14	647679.85	4991.77	M_2_LID

Appendix D

ADWR Permits

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER	A(18-19) 22 DBD
WELL REGISTRATION NUMBER	55 - 540672

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady- Senior Hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE: 34 ° Degrees 56 ' Minutes 23.5 " N Seconds
LONGITUDE: 110 ° Degrees 18 ' Minutes 41.6 " W Seconds

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	19.0E	22	SE 1/4	NW 1/4	SE 1/4

LAND SURFACE ELEVATION AT WELL: 4998 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One): ☒ NAD-83 ☐ Other *(please specify)*:

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
107	21	013A

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE CR-1
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Casing/Screen Damaged

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 540672

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole: Depth from Surface FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	Existing Casing: Depth from Surface FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	Material: STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	Perforation: BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	45	10.00	0	25	4		X			X						
			25	45	4		X							X		.010

Condition of casing: ☐ Good ☐ Fair ☒ Poor

Existing Annular Material (to the best of your knowledge)

Depth from Surface FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	Filter Pack: SAND	GRAVEL	SIZE
0	20				X							
20	22						X					
22	45									X		10/20

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER 37.0 Feet Below Land Surface

DATE ABANDONMENT COMPLETED 4/29/21

Casing Treatment

Depth from Surface FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	45				X	

Sealing or Fill Material

Depth from Surface FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	High Solids: GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	45				X							17.5

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS Overdrilled using 8.5"

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb U.S. Contracts Mgr

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE 5-17-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: A(18-19) 22 DBD
WELL REGISTRATION NUMBER: 55 - 926108
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY
DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE
TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303
FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY
MAILING ADDRESS: PO BOX 188 M/S 4458
CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032
CONTACT PERSON NAME AND TITLE: Clay Cady- Senior Hydrogogist
TELEPHONE NUMBER: 602 2504617
FAX:
WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): CR-1R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	107	21	013A

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	19.0E	22	SE 1/4	NW 1/4	SE 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34	56	23.73 N	110	18	41.68 W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE)
☒ *GPS Hand-Held ☐ *GPS Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE)
☐ NAD83 NAD27 ☐ WGS84 ☐ Other

METHOD OF ELEVATION (CHECK ONE)
☒ *GPS: Hand-Held ☐ *GPS Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL
ELEVATION 5002 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE)
☒ NAVD88 ☐ NGVD29 ☐ OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
☐ Air Rotary
☐ Bored or Augered
☐ Cable Tool
☐ Dual Rotary
☐ Mud Rotary
☐ Reverse Circulation
☐ Driven
☐ Jetted
☐ Air Percussion / Odex Tubing
☒ Other (please specify) Roto Sonic

Method of Well Development

CHECK ONE
☐ Airlift
☒ Bail
☐ Surge Block
☒ Surge Pump
☐ Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
☒ None
☐ Packed
☐ Swedged
☐ Welded
☐ Other (please specify)

Condition of Well

CHECK ONE
☒ Capped ☐ Abandoned
☐ Pump Installed ☐ **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 4/28/21
DATE WELL CONSTRUCTION COMPLETED: 4/29/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY
DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926108

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
67 Feet Below Land Surface	48 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
37.0 Feet Below Land Surface	4/30/21		☐ Valve ☐ Other: N/A

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	67	8.5

Installed Casing

DEPTH FROM SURFACE		OUTER	MATERIAL TYPE (X)				PERFORATION TYPE (X)						SLOT SIZE
FROM (feet)	TO (feet)	(inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	(inches)
+2	5	8	x			Monument							
+2	28	4		x			x						
28	48	4		x							x		.020

Installed Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)				BENTONITE				FILTER PACK		
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
0	22				x							
22	24						x					
24	26									x		20/40
26	48									x		12/20
48	67						x					

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926108

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	Description Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	3	Clayey Sand	
3	19	Sandy clay	
19	27	Clayey Sand	
27	33	Silty-Clayey Sand	
33	36	Clay	
36	37	Sandy Clay	
37	44	Sand	
44	45	Sandy clay	
45	67	Sand	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 926108

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method

CHECK ONE

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development

CHECK ONE

- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method

CHECK ONE

- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points

CHECK ONE

- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing

CHECK ONE

- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (*feet*)	TO (*feet*)	BOREHOLE DIAMETER (*inches*)	FROM (*feet*)	TO (*feet*)	OUTER DIAMETER (*inches*)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (*inches*)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (*feet*)	TO (*feet*)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner

PRINT NAME AND TITLE: Philip Richards, Manager

SIGNATURE OF LAND OWNER: Philip Richards

DATE: 4/21/2021

☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.

EMAIL ADDRESS

Well Owner (*if different from Land Owner; See instructions*)

PRINT NAME AND TITLE

SIGNATURE OF WELL OWNER

DATE

☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.

EMAIL ADDRESS

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER	WELL REGISTRATION NUMBER
A(18-20) 30 BDB	55 - 482994

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady - Senior hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
34°	55'	43.3" N	110°	16'	4.5" W

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	NW 1/4	SE 1/4	NW 1/4

LAND SURFACE ELEVATION AT WELL: 5041 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One): ☒ NAD-83 ☐ Other *(please specify)*:

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	019

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE F-91
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Annular Seal failing

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 482994

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole			Existing Casing (to the best of your knowledge)														
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)							
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	76	unknown	0	76	1		x									

Condition of casing: ☐ Good ☐ Fair ☒ Poor

Existing Annular Material (to the best of your knowledge)												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)				BENTONITE				FILTER PACK		
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	SAND	GRAVEL	SIZE
0	76								Unknown			

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Handbook for additional information

DEPTH TO WATER 19.0 Feet Below Land Surface

DATE ABANDONMENT COMPLETED 5/11/21

Casing Treatment

DEPTH FROM SURFACE		TREATMENT TYPE (T)				
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	75				X	4.5"

Sealing or Fill Material

DEPTH FROM SURFACE		MATERIAL TYPE (T)					HIGH SOLIDS					
FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	75											7.0

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS Over drilled Using 4.5" Core barrel

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb Commercial Manager

SIGNATURE OF QUALIFYING PARTY: Jason Lamb

DATE: 5-21-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER	A(18-20) 30 BDB
WELL REGISTRATION NUMBER	55 - 926109
PERMIT NUMBER (IF ISSUED)	

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S 4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617

FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): F-91R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	019

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0 N	20.0 E	30	NW 1/4	SE 1/4	NW 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34°	55'	43.1" N	110°	16'	49" W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☒ *GPS Hand-Held ☐ *GPS Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): ☒ NAD83 ☐ NAD27 ☐ WGS84 ☐ Other

METHOD OF ELEVATION (CHECK ONE): ☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL: ELEVATION 5039 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): ☒ NAVD88 ☐ NGVD29 ☐ OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (please specify): Roto Sonic

Method of Well Development

CHECK ONE

- ☐ Airlift
- ☒ Bail
- ☐ Surge Block
- ☒ Surge Pump
- ☐ Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE

- ☒ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Condition of Well

CHECK ONE

- ☒ Capped
- ☐ Pump Installed
- ☐ Abandoned
- ☐ **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/13/21

DATE WELL CONSTRUCTION COMPLETED: 5/14/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926109

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
88 Feet Below Land Surface	87.5 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
20.49 Feet Below Land Surface	5/14/21	5:00 Pm	☐ Valve ☐ Other: N/A

Borehole / Installed Casing

Borehole DEPTH FROM SURFACE FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	Casing DEPTH FROM SURFACE FROM (feet)	TO (feet)	OUTER (inches)	MATERIAL TYPE (X) STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X) BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0	54	8.5	+2	5	6	X			Monument							
54	88	6.5	+1	77.5	2		X		S80	X						
			77.5	87.5	2		X		S80					X		.020

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	GRAVEL	SIZE
0	68.5			X								
68.5	73.5						X					
73.5	75.5									X		20/40
75.5	88									X		12/20

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926109

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	Description Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	7	Hydrovac	
7	17	Well graded Sand w/ Silt	
17	21	Well graded gravel w/ sand	
21	27	Clay	
27	37	Silt	
37	41.5	Silty Sand w/ gravel	
41.5	50	Sandy Silt w/ gravel	
50	73	Moqui	
73	88	fine graded, Silty Sandstone	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 916109

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development
CHECK ONE
- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method
CHECK ONE
- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points
CHECK ONE
- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE
- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM *(feet)*	TO *(feet)*	BOREHOLE DIAMETER *(inches)*	FROM *(feet)*	TO *(feet)*	OUTER DIAMETER *(inches)*	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY *(inches)*
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)									FILTER PACK		
						BENTONITE							
FROM *(feet)*	TO *(feet)*	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE		SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐			☐	☐	
		☐	☐	☐	☐	☐	☐	☐			☐	☐	
		☐	☐	☐	☐	☐	☐	☐			☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner		Well Owner (*if different from Land Owner; See instructions*)	
PRINT NAME AND TITLE	Philip Richards, Manager	PRINT NAME AND TITLE	
SIGNATURE OF LAND OWNER	Philip Richards	SIGNATURE OF WELL OWNER	
DATE	4/21/2021	DATE	
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.		☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	
EMAIL ADDRESS		EMAIL ADDRESS	

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

FILE NUMBER	WELL REGISTRATION NUMBER
A(18-20) 30 BDB	55 - 482995

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady - Senior Hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
34°	55'	43.2" N	110°	16'	4.9" W

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0 E	30	NW 1/4	SE 1/4	NW 1/4

LAND SURFACE ELEVATION AT WELL: 5039 Feet Above Sea Level

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	019

METHOD OF LATITIDE / LONGITUDE (Check One) ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One) ☒ NAD-83 ☐ Other *(please specify)*:

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any Information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE F-92
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?			If no, was the top 20' of casing removed prior to setting the cement plug? ☐ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Obstructed

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 482995

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole			Existing Casing (to the best of your knowledge)													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	56	Unknown	0	56	1		x									

Condition of casing: ☐ Good ☐ Fair ☒ Poor

DEPTH FROM SURFACE		Existing Annular Material (to the best of your knowledge) — ANNULAR MATERIAL TYPE (T)				BENTONITE				FILTER PACK		
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	SAND	GRAVEL	SIZE
0	56								Unknown			

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER: 15 Feet Below Land Surface

DATE ABANDOMENT COMPLETED: 5/14/21

Casing Treatment						
DEPTH FROM SURFACE		TREATMENT TYPE (T)				
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	3				X	
3	35				X	

Sealing or Fill Material												
DEPTH FROM SURFACE		MATERIAL TYPE (T)					HIGH SOLIDS					
FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☐ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	35											.65

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☐ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
- ☐ *Variance Option*
- ☐ Alternative 5
- ☐ *Variance Option 1*
- ☐ *Variance Option 2*
- ☒ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS Abandonment Plan Approved by Jackson. Was only able to remove 3 feet of casing from well due to overhead utility issues, Tremie grout well

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF QUALIFYING PARTY	DATE
Jason Lamb Commercial Manager	[signature]	5-21-21

Toms, Christopher

From: Jackson Lange <jdlange@azwater.gov>
Sent: Tuesday, May 4, 2021 8:08 AM
To: Toms, Christopher
Subject: Re: ADWR Driller's Packets

Hello Chris,

Thanks for sending that over, that sounds good to me. Feel free to begin operations using that initial abandonment card I sent for this well.

Thank you,

Jackson Lange

Arizona Department of Water Resources

Groundwater Permitting & Wells

602-771-8432

On Mon, May 3, 2021 at 4:05 PM Toms, Christopher <christopher.toms@boartlongyear.com> wrote:

Hello Jackson-

This email is a follow up to our conversation on the phone about 55-482995. We are unable to tower a rig over this well due to over head utilities that were installed after this well was drilled. Our plan of attack on this well is to tag the bottom of the well to establish the correct depth (suspected to be 54-56') . After tagging we are going to use ½" poly tubing as treme pipe and pump neat cement from the bottom of the well to 20' bgs. We will attempt to remove the top 20' of the well by pulling with a fork lift in hopes to insure a proper surface seal. If unsuccessful, we will fill up what we can with neat cement. Let me know if this plan will work for you and we will start the process.

Thanks,

Christopher Toms

Boart Longyear Company

7103 W. Augusta Ave.

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: **A(18-20) 30 BDB**
WELL REGISTRATION NUMBER: **55 - 926110**
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S 4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617 FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): F-92R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	019

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0 N	20.0 E	30	NW 1/4	SE 1/4	NW 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34 °	55 '	43.2 "N	110 °	16 '	4.9 "W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☒ *GPS Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): ☒ NAD83 ☐ NAD27 ☐ WGS84 ☐ Other ______

METHOD OF ELEVATION (CHECK ONE): ☒ *GPS Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL

ELEVATION 5039 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): ☒ NAVD88 ☐ NGVD29 ☐ OTHER ______

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (please specify): Roto Sonic

Method of Well Development

CHECK ONE
- ☐ Airlift
- ☒ Bail
- ☐ Surge Block
- ☒ Surge Pump
- ☐ Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
- ☒ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Condition of Well

CHECK ONE
- ☒ Capped
- ☐ Pump Installed
- ☐ Abandoned
- ☐ **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/15/21

DATE WELL CONSTRUCTION COMPLETED: 5/15/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926110

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
50 Feet Below Land Surface	47 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
19.9 Feet Below Land Surface	5/15/21		☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	50	6.5

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER (inches)	MATERIAL TYPE (X): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
+2	5	6	x			Monument							
+1	27	2		x		S80	x						
27	47	2		x		S80					x		.020

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (X): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	BENTONITE: CHIPS	BENTONITE: PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK: SAND	FILTER PACK: GRAVEL	FILTER PACK: SIZE
0	21			x								
21	23						x					
23	25									x		20/40
25	48									x		12/20
48	50								Slough			

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926110

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	Description Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	9	Hydrovac	
9	16.5	Sandy Clay	
165	42	Sandy Silt	
42	48	Clayey Gravel w/ Silt	
48	50	Moqui	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER 55 - 926110

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method

CHECK ONE

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development

CHECK ONE

- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method

CHECK ONE

- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points

CHECK ONE

- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing

CHECK ONE

- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole: DEPTH FROM SURFACE FROM (*feet*)	TO (*feet*)	BOREHOLE DIAMETER (*inches*)	Casing: DEPTH FROM SURFACE FROM (*feet*)	TO (*feet*)	OUTER DIAMETER (*inches*)	MATERIAL TYPE (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (*inches*)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE FROM (*feet*)	TO (*feet*)	ANNULAR MATERIAL TYPE (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK: SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner	Well Owner (*if different from Land Owner; See instructions*)
PRINT NAME AND TITLE: Philip Richards, Manager	PRINT NAME AND TITLE:
SIGNATURE OF LAND OWNER: Philip Richards	SIGNATURE OF WELL OWNER:
DATE: 4/21/2021	DATE:
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS:	EMAIL ADDRESS:

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER
A(18-20) 30 CBD
WELL REGISTRATION NUMBER
55 - 482992

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm (Mail To:)

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady, Senior hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE: 34 ° Degrees 55 ' Minutes 41.9 " N Seconds
LONGITUDE: 110 ° Degrees 16 ' Minutes 2.5 " W Seconds

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	SW 1/4	NW 1/4	SE 1/4

LAND SURFACE ELEVATION AT WELL: 5044 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☐ USGS Quad Map ☐ Conventional Survey ☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	019

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One): ☒ NAD-83 ☐ Other *(please specify)*:

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE F-111
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?
NO Aquifer Communication

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 482992

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole: Depth from Surface FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	Existing Casing (to the best of your knowledge): Depth from Surface FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	Material Type (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	Perforation Type (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	51	8.00	0	26	1		X			X						
			26	46	1		X							X		

Condition of casing: ☐ Good ☐ Fair ☒ Poor

Existing Annular Material (to the best of your knowledge)

Depth from Surface FROM (feet)	TO (feet)	Annular Material Type (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	Filter Pack: SAND	GRAVEL	SIZE
0	17.25			X								
17.25	19.75						X					
19.75	46										X	

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER: N/A Feet Below Land Surface

DATE ABANDOMENT COMPLETED: 5/15/21

Casing Treatment

Depth from Surface FROM (feet)	TO (feet)	Treatment Type (T): SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	20				X	

Sealing or Fill Material

Depth from Surface FROM (feet)	TO (feet)	Material Type (T): NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	High Solids: GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	46				X							1.3

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE
- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☒ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE
- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS * Only 20' of surface casing was able to be retrieved. We tremmie grouted bottom of well prior to overdrilling to ensure well is complety grouted.

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb Commercial Manager

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-21-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER	A(18-20) 30 CBD
WELL REGISTRATION NUMBER	55 - 926111
PERMIT NUMBER (IF ISSUED)	

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S 4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617   FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): F-111R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	019

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0 N	20.0 E	30	SW 1/4	NW 1/4	SE 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34°	55'	42.0" N	110°	16'	2.7" W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): ☒ NAD83 ☐ NAD27 ☐ WGS84 ☐ Other

METHOD OF ELEVATION (CHECK ONE): ☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL: ELEVATION 5043 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): ☒ NAVD88 ☐ NGVD29 ☐ OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (please specify) Roto Sonic

Method of Well Development

CHECK ONE

- ☐ Airlift
- ☒ Bail
- ☐ Surge Block
- ☒ Surge Pump
- ☐ Other (please specify)

Condition of Well

CHECK ONE

- ☒ Capped
- ☐ Pump Installed
- ☐ Abandoned
- ☐ **Not Drilled**

Method of Sealing at Reduction Points

CHECK ONE

- ☒ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/15/21

DATE WELL CONSTRUCTION COMPLETED: 5/15/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]   DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926111

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
52 Feet Below Land Surface	49.5 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
19.02 Feet Below Land Surface	5/19/21	8:00 am	☐ Valve ☐ Other: N/A

Borehole			Installed Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (X)				PERFORATION TYPE (X)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0	52	6.5	+2	5	6	x			Monument							
			+1	29.5	2		x		S80	x						
			29.5	49.5	2		x							x		.020

Installed Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)								FILTER PACK		
						BENTONITE						
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
0	23			X								
23	25						x					
25	27									x		20/40
27	50									x		12/20
50	52								Slough			

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926111

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	**Description** Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	5	Hydro Vac	
5	17.5	Sandy Clay	
17.5	28	Sandy Silt	
28	36.5	Sandy Clay	
36.5	39	Silty Sand	
39	49.5	Silty Clay	
49.5	52	Moqui	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 926111

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE

- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development
CHECK ONE

- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method
CHECK ONE

- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points
CHECK ONE

- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE

- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole / Casing

Borehole: Depth From Surface FROM (feet)	Borehole: TO (feet)	BOREHOLE DIAMETER (inches)	Casing: Depth From Surface FROM (feet)	Casing: TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

Depth From Surface FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	Bentonite: CHIPS	Bentonite: PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	Filter Pack: SAND	Filter Pack: GRAVEL	Filter Pack: SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner	Well Owner (*if different from Land Owner; See instructions*)
PRINT NAME AND TITLE: Philip Richards, Manager	PRINT NAME AND TITLE:
SIGNATURE OF LAND OWNER: Philip Richards	SIGNATURE OF WELL OWNER:
DATE: 4/21/2021	DATE:
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS:	EMAIL ADDRESS:

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER	A(18-20) 30 CBD
WELL REGISTRATION NUMBER	55 - 506587

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm (Mail To:)

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist
MAILING ADDRESS: PO BOX 188 M/S 4458	TELEPHONE NUMBER: 602-250-4617
CITY / STATE / ZIP: JOSEPH CITY, AZ 86032	FAX:

Location of Well

WELL LOCATION ADDRESS (IF ANY):

LATITUDE: 34 ° Degrees 55 ' Minutes 41.2 " N Seconds
LONGITUDE: 110 ° Degrees 16 ' Minutes 1.3 " W Seconds

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0 N	20.0 E	30	SW 1/4	NW 1/4	SE 1/4

LAND SURFACE ELEVATION AT WELL: 5047 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One): ☑ NAD-83 ☐ Other *(please specify)*:

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	019

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE: W-123
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Incorrect Screened interval

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 506587

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole			Existing Casing (to the best of your knowledge)													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	30	Unknown	0	15			X			X						
			15	30			X							X		.022

Condition of casing: ☐ Good ☐ Fair ☒ Poor k

Existing Annular Material (to the best of your knowledge)												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	SAND	GRAVEL	SIZE
									Unknown			

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER: 20.0 Feet Below Land Surface

DATE ABANDONMENT COMPLETED: 5/12/21

Casing Treatment						
DEPTH FROM SURFACE		TREATMENT TYPE (T)				
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	35				X	Overdrill

Sealing or Fill Material												
DEPTH FROM SURFACE		MATERIAL TYPE (T)										
							HIGH SOLIDS					
FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	35				X							13

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS

Over drilled using 8" core barrel

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF QUALIFYING PARTY	DATE
Jason Lamb Commercial Manag		5-21-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: A(18-20) 30 CBD
WELL REGISTRATION NUMBER: 55 - 926116
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S 4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617
FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): W-123 R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	019

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	SW 1/4	NW 1/4	SE 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34 °	55 '	41.2 "N	110 °	16 '	1.2 "W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE)
- [x] *GPS: Hand-Held
- [ ] *GPS: Survey-Grade
- [ ] TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE)
- [x] NAD83
- [ ] NAD27
- [ ] WGS84
- [ ] Other

METHOD OF ELEVATION (CHECK ONE)
- [x] *GPS: Hand-Held
- [ ] *GPS: Survey-Grade
- [ ] TOPO

LAND SURFACE ELEVATION AT WELL
ELEVATION 5048 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE)
- [x] NAVD88
- [ ] NGVD29
- [ ] OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
- [ ] Air Rotary
- [ ] Bored or Augered
- [ ] Cable Tool
- [ ] Dual Rotary
- [ ] Mud Rotary
- [ ] Reverse Circulation
- [ ] Driven
- [ ] Jetted
- [ ] Air Percussion / Odex Tubing
- [x] Other (please specify)

Roto Sonic

Method of Well Development

CHECK ONE
- [ ] Airlift
- [x] Bail
- [ ] Surge Block
- [x] Surge Pump
- [ ] Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
- [x] None
- [ ] Packed
- [ ] Swedged
- [ ] Welded
- [ ] Other (please specify)

Condition of Well

CHECK ONE
- [x] Capped
- [ ] Pump Installed
- [ ] Abandoned
- [ ] **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/12/21

DATE WELL CONSTRUCTION COMPLETED: 5/13/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: Jason [signature]
DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926116

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
19 Feet Below Land Surface	18 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
1.0 Feet Below Land Surface	5/13/12	8:00am	☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	19	8.5

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER (inches)	MATERIAL TYPE (X) STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X) BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
+2	5	8	x			Monument							
+1	8	4		x		S80	x						
8	18	4		x		S80					x		1020

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (X) NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK SAND	GRAVEL	SIZE
0	5			x								
5	6						x					
6	7									x		20/40
7	19									x		12/20

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926116

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	Description Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	2.5	Clayey Gravel	
2.5	6	Silt w/ Sand	
6	14.5	Sandy Silt	
14.5	19	Moqui	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 926116

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development
CHECK ONE
- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method
CHECK ONE
- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points
CHECK ONE
- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE
- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner		Well Owner (*if different from Land Owner; See instructions*)	
PRINT NAME AND TITLE	Philip Richards, Manager	PRINT NAME AND TITLE	
SIGNATURE OF LAND OWNER	Philip Richards	SIGNATURE OF WELL OWNER	
DATE	4/21/2021	DATE	
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.		☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	
EMAIL ADDRESS		EMAIL ADDRESS	

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER
A(18-20) 30 CCB
WELL REGISTRATION NUMBER
55 - 553268

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady - Senior Hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE: 35° Degrees 55' Minutes 37.21" N Seconds
LONGITUDE: 110° Degrees 16' Minutes 4.21" W Seconds

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	SW 1/4	SW 1/4	NW 1/4

LAND SURFACE ELEVATION AT WELL: 5038 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	007B

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One)
☒ NAD-83 ☐ Other *(please specify)*:

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE W-126
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Incorrect Screen Interval

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 553268

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole / **Existing Casing** (to the best of your knowledge)

Borehole FROM (feet)	Borehole TO (feet)	BOREHOLE DIAMETER (inches)	Casing FROM (feet)	Casing TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	50	8 7/8	0	17			X									
			17	50			X							X		.010

Condition of casing: ☒ Good ☐ Fair ☐ Poor

Existing Annular Material (to the best of your knowledge)

FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE GROUT	BENTONITE CHIPS	BENTONITE PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	FILTER PACK SAND	FILTER PACK GRAVEL	SIZE
0	15			X								
15	17						X					
17	50									X		10/20

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER: 3.9 Feet Below Land Surface

DATE ABANDONMENT COMPLETED: 5/3/21

Casing Treatment

FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	50				X	

Sealing or Fill Material

FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	HIGH SOLIDS GROUT	HIGH SOLIDS CHIPS	HIGH SOLIDS PELLETS	SAND	MIXING RATIO by (check one) ☒ Weight ☐ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	44				X							4.7

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE
- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE
- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS: Entire Casing Pulled in one String

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb U.S. Contracts Manager

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-17-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: A(18-20) 30 CCB
WELL REGISTRATION NUMBER: 55 - 926120
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE
MAILING ADDRESS: PO BOX 188 M/S 4458
CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032
CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist
TELEPHONE NUMBER: 602 2503196
FAX:
WELL NAME (e.g. MW-1, PZ-3, lot 25 Well, Smith Well, etc.): W-126R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	007B

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0 N	20.0 E	30	SW 1/4	SW 1/4	NW 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34	55	37.02 N	110	16	4.26 W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): ☒ *GPS: Hand-Held ☐ *GPS: Survey-Grade ☐ TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): ☒ NAD83 ☐ NAD27 ☐ WGS84 ☐ Other ____

METHOD OF ELEVATION (CHECK ONE): ☒ *GPS Hand-Held ☐ *GPS Survey-Grade ☐ TOPO

LAND SURFACE ELEVATION AT WELL: ELEVATION 5635 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): ☒ NAVD88 ☐ NGVD29 ☐ OTHER ____

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (please specify) Roto Sonic

Method of Well Development

CHECK ONE
- ☐ Airlift
- ☒ Bail
- ☐ Surge Block
- ☒ Surge Pump
- ☐ Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
- ☒ None
- ☐ Packed
- ☐ Swedged
- ☐ Welded
- ☐ Other (please specify)

Condition of Well

CHECK ONE
- ☒ Capped
- ☐ Pump Installed
- ☐ Abandoned
- ☐ **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/3/21
DATE WELL CONSTRUCTION COMPLETED: 5/3/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]
DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926120

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
27 Feet Below Land Surface	19 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
3.9 Feet Below Land Surface	5/4/21	5:00 Pm	☐ Valve ☐ Other: N/A

Borehole / **Installed Casing**

Borehole Depth From Surface FROM (feet)	Borehole Depth From Surface TO (feet)	BOREHOLE DIAMETER (inches)	Casing Depth From Surface FROM (feet)	Casing Depth From Surface TO (feet)	OUTER (inches)	Material Type (X): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	Perforation Type (X): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0	27	8.5	+2	5	8	x			Monument							
			+2	9	4		x		S80	x						
			9	19	4		x		S80					x		.020

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	Annular Material Type (X): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	Bentonite: CHIPS	Bentonite: PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	Filter Pack: SAND	Filter Pack: GRAVEL	Filter Pack: SIZE
0	5				x							
5	6						x					
6	7									x		20/40
7	20									x		12/20

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926120

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	**Description** Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	10	Hydrovac	
10	16	Sandy Elastic Silt	X
16	27	Moqui - Bedrock	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 926120

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method

CHECK ONE

☐ Air Rotary
☐ Bored or Augered
☐ Cable Tool
☐ Dual Rotary
☐ Mud Rotary
☐ Reverse Circulation
☐ Driven
☐ Jetted
☐ Air Percussion / Odex Tubing
☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development

CHECK ONE

☐ Airlift
☐ Bail
☐ Surge Block
☐ Surge Pump
☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method

CHECK ONE

☐ Tremie Pumped (*Recommended*)
☐ Gravity
☐ Pressure Grout
☐ Other (*please specify*):

Method of Sealing at Reduction Points

CHECK ONE

☐ None
☐ Welded
☐ Swedged
☐ Packed
☐ Other (*please specify*):

Surface or Conductor Casing

CHECK ONE

☐ Flush Mount in a vault
☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (*feet*)	TO (*feet*)	BOREHOLE DIAMETER (*inches*)	FROM (*feet*)	TO (*feet*)	OUTER DIAMETER (*inches*)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (*inches*)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (*feet*)	TO (*feet*)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner	Well Owner (*if different from Land Owner; See instructions*)
PRINT NAME AND TITLE: Philip Richards, Manager	PRINT NAME AND TITLE:
SIGNATURE OF LAND OWNER: Philip Richards	SIGNATURE OF WELL OWNER:
DATE: 4/21/2021	DATE:
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS:	EMAIL ADDRESS:

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER	A(18-19) 24 BBD
WELL REGISTRATION NUMBER	55 - 506366

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm — Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist
MAILING ADDRESS: PO BOX 188 M/S 4458	TELEPHONE NUMBER: 602-250-4617
CITY / STATE / ZIP: JOSEPH CITY, AZ 86032	FAX:

Location of Well

WELL LOCATION ADDRESS (IF ANY):

LATITUDE Degrees	Minutes	Seconds	LONGITUDE Degrees	Minutes	Seconds
34°	56'	58.884" N	110°	17'	6.421" W

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18 N	19.0 E	24	NW 1/4	SE 1/4	SW 1/4

LAND SURFACE ELEVATION AT WELL: 4768 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One): ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
107	5	063

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One): ☒ NAD-83 ☐ Other *(please specify):*

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)			IF YES, PLEASE STATE: W-307
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?	X		
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Unrepresentative groundwater

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 506366

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole: DEPTH FROM SURFACE FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	Existing Casing (to the best of your knowledge): DEPTH FROM SURFACE FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	MATERIAL TYPE (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE DESCRIBE	SLOT SIZE IF ANY (inches)
0	118	...	0	60			x									

Condition of casing: ☐ Good ☐ Fair ☐ Poor Unknown

Existing Annular Material (to the best of your knowledge)

DEPTH FROM SURFACE FROM (feet)	TO (feet)	ANNULAR MATERIAL TYPE (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	FILTER PACK: SAND	GRAVEL	SIZE
							Unknown					

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Handbook for additional information

DEPTH TO WATER 23 Feet Below Land Surface

DATE ABANDONMENT COMPLETED 9/22/21

Casing Treatment

DEPTH FROM SURFACE FROM (feet)	TO (feet)	TREATMENT TYPE (T): SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	60				x	

Sealing or Fill Material

DEPTH FROM SURFACE FROM (feet)	TO (feet)	MATERIAL TYPE (T): NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	HIGH SOLIDS: GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	20	x										7.2
20	60						x					14.5

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS Over drilled existing casing with 8" casing. All PVC Removed and grouted Back w/ 20% Sand grout. Top 20' Neat Cement

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE	SIGNATURE OF QUALIFYING PARTY	DATE
Jason Lamb Commercial	Jason Lamb	10-21-21

Notice of Intent to Abandon a Well

WELL REGISTRATION NUMBER
55 - 506366

SECTION 7. Well Abandonment Diagram

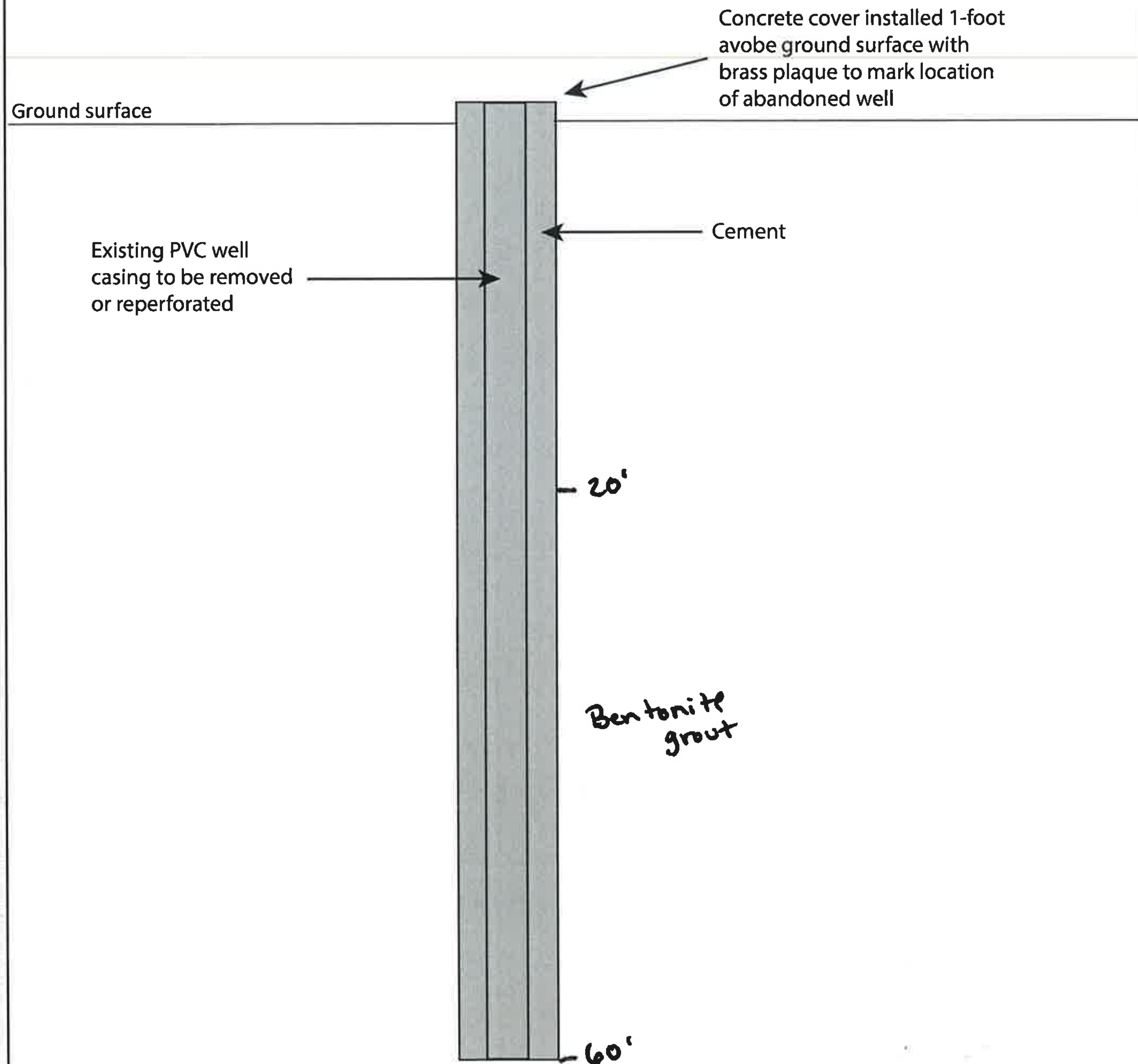
Please use the space below to provide a well abandonment diagram showing all existing well construction features listed in Section 5 and the proposed abandonment specifications listed in Section 6.

see attached diagram

SECTION 8. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

Land Owner	**Well Owner** *(complete if Land Owner/Well Owner are NOT the same)*
PRINT NAME AND TITLE APS on behalf of BLM	PRINT NAME AND TITLE Philip Richards
SIGNATURE OF LAND OWNER [signature]	SIGNATURE OF WELL OWNER Philip Richards
DATE 8/30/21 Natalie Chrisman Lazarr	DATE 4/27/2021
X By checking this box, you agree to allow ADWR to contact you via electronic mail.	By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS natalie.chrismanlazarr@aps.com	EMAIL ADDRESS philip.richards@aps.com



Notes:
1. Wells to be abandoned in compliance with ADWR rules and regulations using the standard abandonment method

wood.	**Figure 7** Typical Well Abandonment	Arizona Public Service Cholla Power Plant Navajo County, Arizona Date: April 2021

Form 2800-14
(August 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RIGHT-OF-WAY GRANT/TEMPORARY USE PERMIT

Issuing Office
LLAZG010000

Serial Number
AZA 18679

1. A (right-of-way) (permit) is hereby granted pursuant to:

   a. ☑ Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761);

   b. ☐ Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185);

   c. ☐ Other *(describe)* __________

2. Nature of Interest:

   a. By this instrument, the holder **Arizona Public Service** receives a right to construct, operate, maintain, and terminate a **amended existing ROW (See Below)** on public lands (or Federal land for MLA Rights-of-Way) described as follows:

The existing ROW was granted in November of 1983 for an existing road, three monitoring wells, and three well pads and for a 20-year term. Only one well and one pad were completed. On December 15, 1992, the ROW grant was amended to include two seepage intercept systems and a 35-year term. The amendment has an expiration of 12/14/2027 at which time it may be renewed.

The original ROW is further amended to also include:

- Relinquish the two well pads and side road that were never developed.
- Drill a new well adjacent to the existing well within the disturbed well pad area.
- Abandon the existing well according to Arizona Department of Water Resources (ADWR).
- Add the realigned portions of the road due to erosion that has occurred and a segment of existing road on the southwest end of the ROW not in original grant. The approximate length to be added is 1,222 feet.

Well Location	Long	Lat
New Well within existing well pad	-110.285116	34.949714
Existing Well within well pad	-110.285117	34.94969

The seepage intercept systems are to remain in the existing ROW grant.

There will be no new disturbance outside of the existing ROWs. No temporary work areas are needed to construct the proposed wells.

   b. The right-of-way or permit area granted herein is NA feet wide, NA feet long and contains 1.91 acres, more or less. If a site type facility, the facility contains ______ acres.

   c. This instrument shall terminate on 12/14/2027, 35 years from its effective date unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

   d. This instrument ☑ may ☐ may not be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

   e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandoment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

(Continued on page 2)

3. Rental:

For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:

a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations parts 2800 and 2880.

b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within **180** days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.

c. Each grant issued pursuant to the authority of paragraph (1)(a) for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.

d. The stipulations, plans, maps, or designs set forth in Exhibit(s) **A and B**, dated **06/23/2021**, attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.

e. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.

f. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

Tray Wiegreck	Scott Cooke
(Signature of Holder)	(Signature of Authorized Officer)
Supervisor, Land Services	**Field Manager**
(Title)	(Title)
18 August 2021	8/26/21
(Date)	(Effective Date of Grant)

Exhibit A: Realty Stipulations

1. This grant is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.

2. Any archaeological or historical artifacts or remains, or vertebrate fossils discovered during construction, maintenance and use shall be left intact and undisturbed; all work in the area shall stop immediately and the Authorized Officer shall be notified immediately. Commencement of operations shall be allowed upon clearance by the Authorized Officer.

3. An additional cultural and paleontological resource survey may be required in the event that the project location is changed, or additional surface disturbing operations are added to the project after the initial survey. Any such survey would have to be completed prior to commencement of operations.

4. If in connection with operations under this authorization, any human remains, funerary objects, sacred objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; Stat. 3048; U.S.C. 3001) are discovered, the permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

5. The proponent and any contractors will need to thoroughly power wash and remove all vegetative material and soil before transporting equipment to the construction site to minimize the threat of spreading noxious and invasive weeds. This includes trucks, trailers, and all other machinery. The contractor, in concert with the BLM, will be responsible for weed control on disturbed areas within the limits of the Right-of-Way or construction site. The proponent and contractor will be responsible for consultation with the Authorized Officer and local authorities for implementing acceptable weed treatment methods. Any use of chemical treatments requires the submission of a Pesticide Use Proposal (PUP) to the ROW Specialist, and approval by the BLM Pesticide Use Coordinator. The applications will abide by all safety and application guidelines as listed on the produce label and Material Safety Data Sheet (MSDS). Any reclamation efforts requiring seeding will need to be done with certified, weed-free native seed. Contact BLM for approved sources of native seed, certified testing and mixtures. All herbicidal treatments must comply with: Record of Decision, Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States, EIS, 2007, Herbicide Active Ingredients Approved for Use; Record of Decision, Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Lands in 17 Western States, 2016.

6. Upon grant termination by the Authorized Officer, all improvements shall be removed from the public lands within 180 days, or otherwise disposed of as provided by the authorized officer.

7. All operations shall be performed in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

8. All activities directly or indirectly associated with construction, operation and maintenance shall be conducted within the limits of the approved right-of-way. This right-of-way does not allow for any surface disturbing activities outside the right-of-way area.

9. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et.seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

10. The holder shall notify the Authorized Officer prior to commencement of emergency maintenance outside the right-of-way to discuss repair and construction activities, since the authorization is within the boundaries of the Tanner Wash Area of Critical Environmental Concern (ACEC).

11. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 4 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

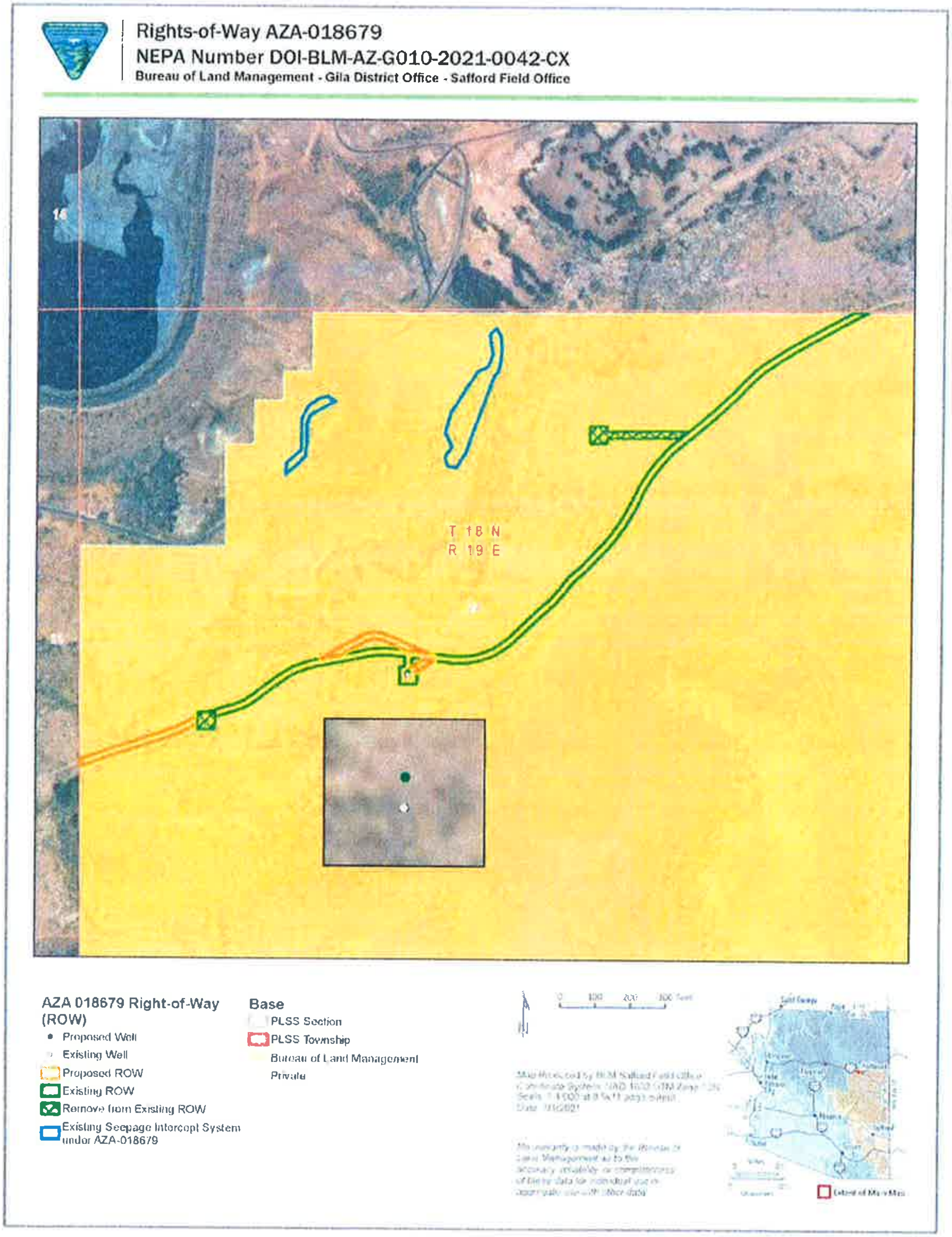
12. The holder must amend the right-of-way grant at any time additional land, equipment, and/or new uses are proposed which are beyond the scope of the existing authorization.

13. At least 60 days prior to termination of the right-of-way, the holder shall contact the Authorized Officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, top soiling, or seeding. The Authorized Officer must approve the plan in writing prior to the holder's commencement of any termination activities.

14. The holder shall notify the Authorized Officer of any address change that occurs during the term of the right-of-way.

15. Any changes to the authorization require prior written approval from the Authorized Officer.

Exhibit B: Map



Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: A(18-19) 24 BDC
WELL REGISTRATION NUMBER: 55 - 926816
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-4861885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617
FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): MW-307R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	107	5	063

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18 N	19 E	24	SW 1/4	SE 1/4	NW 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34°	56	59.0" N	110°	17	06.2" W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): [X] *GPS: Hand-Held [ ] *GPS: Survey-Grade [ ] TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): [ ] NAD83 [ ] NAD27 [X] WGS84 [ ] Other

METHOD OF ELEVATION (CHECK ONE): [X] *GPS: Hand-Held [ ] *GPS: Survey-Grade [ ] TOPO

LAND SURFACE ELEVATION AT WELL: ELEVATION 4768 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): [X] NAVD88 [ ] NGVD29 [ ] OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
- [ ] Air Rotary
- [ ] Bored or Augered
- [ ] Cable Tool
- [ ] Dual Rotary
- [ ] Mud Rotary
- [ ] Reverse Circulation
- [ ] Driven
- [ ] Jetted
- [ ] Air Percussion / Odex Tubing
- [X] Other (please specify) Sonic

Method of Well Development

CHECK ONE
- [ ] Airlift
- [X] Bail
- [X] Surge Block
- [X] Surge Pump
- [ ] Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
- [X] None
- [ ] Packed
- [ ] Swedged
- [ ] Welded
- [ ] Other (please specify)

Condition of Well

CHECK ONE
- [X] Capped
- [ ] Pump Installed
- [ ] Abandoned
- [ ] **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 10-4-21

DATE WELL CONSTRUCTION COMPLETED: 10-5-21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]
DATE: 10-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926816

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
65' Feet Below Land Surface	65' Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
23.2' Feet Below Land Surface	10-2-21	8:52 am	☐ Valve ☐ Other: N/A

Borehole			Installed Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (X)				PERFORATION TYPE (X)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
0'	65'	8"	0'	35'	4"		X		Sch 80	X						
			35'	65'	4"		X		Sch 80					X		.010

Installed Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (X)								FILTER PACK		
						BENTONITE						
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
0'	26'				X							
26'	30'						X					
30'	65'									X		12/20

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926816

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	TO (feet)	**Description** Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0'	18'	Poorly graded sand; dark reddish gray	
18'	28'	Well graded sand with gravel; dark reddish gray	X
28'	33'	Clayey sand; light red	X
33'	41'	Poorly graded sand w/silt; dark reddish brown	X
41'	65'	Clayey sand; dark reddish brown	X

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER
55 - 926816

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN
~~05/03/2021~~ 9/13/2021

Method of Well Development
CHECK ONE
- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☒ Other (*please specify*): Swab/Pump

Method of Sealing at Reduction Points
CHECK ONE
- ☒ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Grout Emplacement Method
CHECK ONE
- ☒ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE
- ☐ Flush Mount in a vault
- ☒ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole: Depth From Surface FROM (feet)	Borehole: TO (feet)	BOREHOLE DIAMETER (inches)	Casing: Depth From Surface FROM (feet)	Casing: TO (feet)	OUTER DIAMETER (inches)	Material: STEEL	Material: PVC	Material: ABS	IF OTHER TYPE, DESCRIBE	Perforation: BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
						☒	☐	☐		☒	☐	☐	☐	☐		
						☐	☒	☐		☒	☐	☐	☐	☐		
						☐	☒	☐		☐	☐	☐	☐	☒		

Annular Material

Depth From Surface FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	Bentonite: CHIPS	Bentonite: PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	Filter Pack: SAND	Filter Pack: GRAVEL	SIZE
		☐	☐	☐	☒	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☒	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☒	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

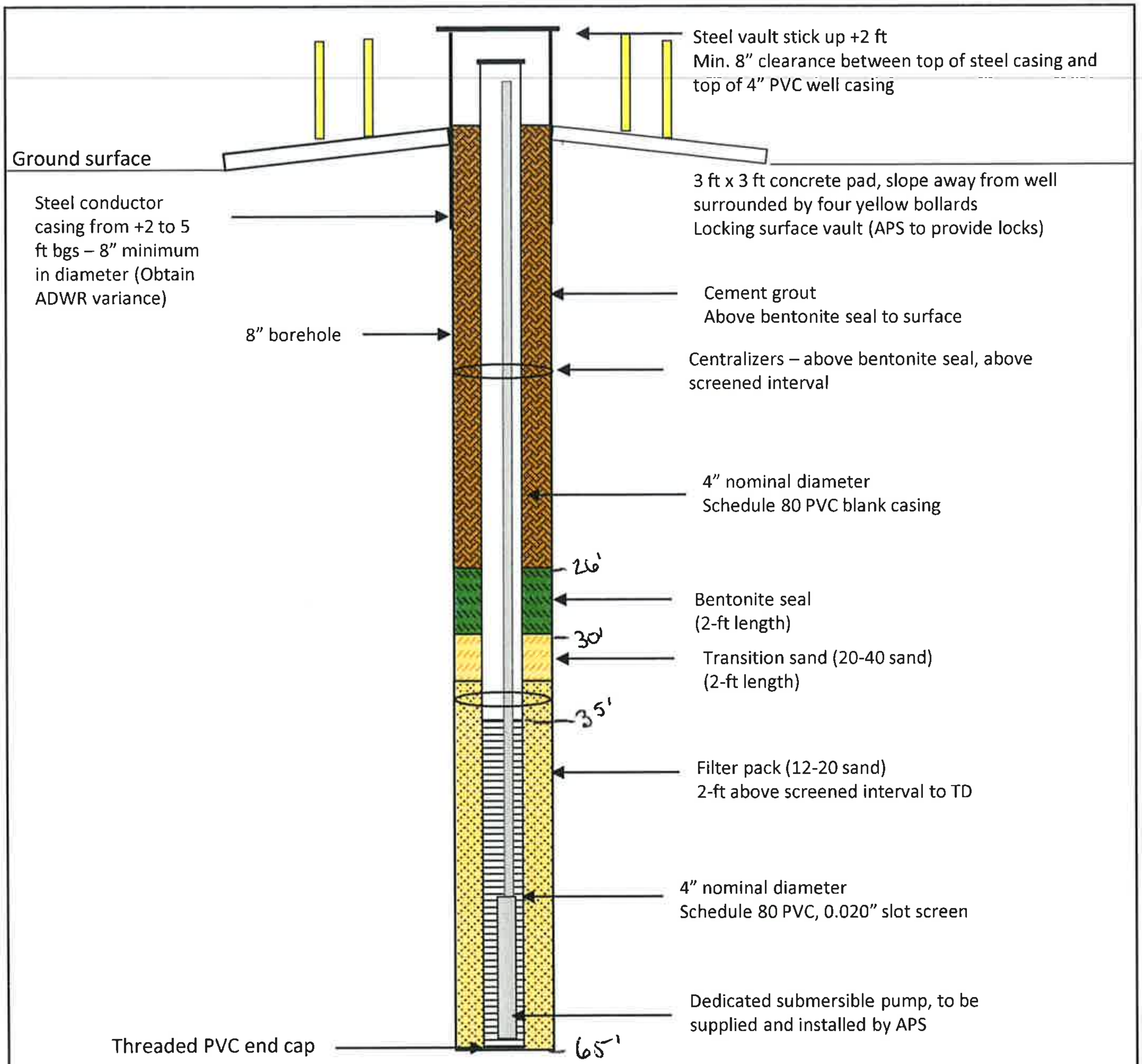
I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner

PRINT NAME AND TITLE: APS on behalf of BLM
SIGNATURE OF LAND OWNER: [signature]
DATE: 08/30/2021 Natalie Chrisman Lazarr
☒ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS: natalie.chrismanlazarr@aps.com

Well Owner (*if different from Land Owner; See instructions*)

PRINT NAME AND TITLE: Philip Richards, Manager
SIGNATURE OF WELL OWNER: Philip Richards
DATE: 4/21/2021
☒ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS: philip.richards@aps.com



Notes:

- Sonic drilling method
- Borehole diameters will allow for at least 2" annular space
- PVC casing connections will be threaded
- ft bgs = feet below ground surface
- All measurements are approximate and provided for bidding purposes

wood.	**Figure 3** Typical Alluvial Monitoring Well Design	Date: February 2021 APS Cholla Power Plant Navajo County, AZ

Form 2800-14
(August 1985)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RIGHT-OF-WAY GRANT/TEMPORARY USE PERMIT

Issuing Office
LLAZG010000

Serial Number
AZA 18679

1. A (right-of-way) (permit) is hereby granted pursuant to:

a. ☑ Title V of the Federal Land Policy and Management Act of October 21, 1976 (90 Stat. 2776; 43 U.S.C. 1761);

b. ☐ Section 28 of the Mineral Leasing Act of 1920, as amended (30 U.S.C. 185);

c. ☐ Other *(describe)* ________

2. Nature of Interest:

a. By this instrument, the holder **Arizona Public Service** receives a right to construct, operate, maintain, and terminate a **amended existing ROW (See Below)** on public lands (or Federal land for MLA Rights-of-Way) described as follows:

The existing ROW was granted in November of 1983 for an existing road, three monitoring wells, and three well pads and for a 20-year term. Only one well and one pad were completed. On December 15, 1992, the ROW grant was amended to include two seepage intercept systems and a 35-year term. The amendment has an expiration of 12/14/2027 at which time it may be renewed.

The original ROW is further amended to also include:

- Relinquish the two well pads and side road that were never developed.
- Drill a new well adjacent to the existing well within the disturbed well pad area.
- Abandon the existing well according to Arizona Department of Water Resources (ADWR).
- Add the realigned portions of the road due to erosion that has occurred and a segment of existing road on the southwest end of the ROW not in original grant. The approximate length to be added is 1,222 feet.

Well Location	Long	Lat
New Well within existing well pad	-110.285116	34.949714
Existing Well within well pad	-110.285117	34.94969

The seepage intercept systems are to remain in the existing ROW grant.

There will be no new disturbance outside of the existing ROWs. No temporary work areas are needed to construct the proposed wells.

b. The right-of-way or permit area granted herein is **NA** feet wide, **NA** feet long and contains **1.91** acres, more or less. If a site type facility, the facility contains ______ acres.

c. This instrument shall terminate on **12/14/2027**, **35** years from its effective date unless, prior thereto, it is relinquished, abandoned, terminated, or modified pursuant to the terms and conditions of this instrument or of any applicable Federal law or regulation.

d. This instrument ☑ may ☐ may not be renewed. If renewed, the right-of-way or permit shall be subject to the regulations existing at the time of renewal and any other terms and conditions that the authorized officer deems necessary to protect the public interest.

e. Notwithstanding the expiration of this instrument or any renewal thereof, early relinquishment, abandoment, or termination, the provisions of this instrument, to the extent applicable, shall continue in effect and shall be binding on the holder, its successors, or assigns, until they have fully satisfied the obligations and/or liabilities accruing herein before or on account of the expiration, or prior termination, of the grant.

(Continued on page 2)

3. Rental:

For and in consideration of the rights granted, the holder agrees to pay the Bureau of Land Management fair market value rental as determined by the authorized officer unless specifically exempted from such payment by regulation. Provided, however, that the rental may be adjusted by the authorized officer, whenever necessary, to reflect changes in the fair market rental value as determined by the application of sound business management principles, and so far as practicable and feasible, in accordance with comparable commercial practices.

4. Terms and Conditions:

a. This grant or permit is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations parts 2800 and 2880.

b. Upon grant termination by the authorized officer, all improvements shall be removed from the public lands within **180** days, or otherwise disposed of as provided in paragraph (4)(d) or as directed by the authorized officer.

c. Each grant issued pursuant to the authority of paragraph (1)(a) for a term of 20 years or more shall, at a minimum, be reviewed by the authorized officer at the end of the 20th year and at regular intervals thereafter not to exceed 10 years. Provided, however, that a right-of-way or permit granted herein may be reviewed at any time deemed necessary by the authorized officer.

d. The stipulations, plans, maps, or designs set forth in Exhibit(s) **A and B**, dated **06/23/2021**, attached hereto, are incorporated into and made a part of this grant instrument as fully and effectively as if they were set forth herein in their entirety.

e. Failure of the holder to comply with applicable law or any provision of this right-of-way grant or permit shall constitute grounds for suspension or termination thereof.

f. The holder shall perform all operations in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

IN WITNESS WHEREOF, The undersigned agrees to the terms and conditions of this right-of-way grant or permit.

Tray Wiggreck	Scott F Cooke
(Signature of Holder)	(Signature of Authorized Officer)
Supervisor, Land Services	**Field Manager**
(Title)	(Title)
18 August 2021	8/26/21
(Date)	(Effective Date of Grant)

Exhibit A: Realty Stipulations

1. This grant is issued subject to the holder's compliance with all applicable regulations contained in Title 43 Code of Federal Regulations part 2800.

2. Any archaeological or historical artifacts or remains, or vertebrate fossils discovered during construction, maintenance and use shall be left intact and undisturbed; all work in the area shall stop immediately and the Authorized Officer shall be notified immediately. Commencement of operations shall be allowed upon clearance by the Authorized Officer.

3. An additional cultural and paleontological resource survey may be required in the event that the project location is changed, or additional surface disturbing operations are added to the project after the initial survey. Any such survey would have to be completed prior to commencement of operations.

4. If in connection with operations under this authorization, any human remains, funerary objects, sacred objects of cultural patrimony as defined in the Native American Graves Protection and Repatriation Act (P.L. 101-601; Stat. 3048; U.S.C. 3001) are discovered, the permittee shall stop operations in the immediate area of the discovery, protect the remains and objects, and immediately notify the Authorized Officer of the discovery. The permittee shall continue to protect the immediate area of the discovery until notified by the Authorized Officer that operations may resume.

5. The proponent and any contractors will need to thoroughly power wash and remove all vegetative material and soil before transporting equipment to the construction site to minimize the threat of spreading noxious and invasive weeds. This includes trucks, trailers, and all other machinery. The contractor, in concert with the BLM, will be responsible for weed control on disturbed areas within the limits of the Right-of-Way or construction site. The proponent and contractor will be responsible for consultation with the Authorized Officer and local authorities for implementing acceptable weed treatment methods. Any use of chemical treatments requires the submission of a Pesticide Use Proposal (PUP) to the ROW Specialist, and approval by the BLM Pesticide Use Coordinator. The applications will abide by all safety and application guidelines as listed on the produce label and Material Safety Data Sheet (MSDS). Any reclamation efforts requiring seeding will need to be done with certified, weed-free native seed. Contact BLM for approved sources of native seed, certified testing and mixtures. All herbicidal treatments must comply with: Record of Decision, Vegetation Treatments Using Herbicides on BLM Lands in 17 Western States, EIS, 2007, Herbicide Active Ingredients Approved for Use; Record of Decision, Vegetation Treatments Using Aminopyralid, Fluroxypyr, and Rimsulfuron on BLM Lands in 17 Western States, 2016.

6. Upon grant termination by the Authorized Officer, all improvements shall be removed from the public lands within 180 days, or otherwise disposed of as provided by the authorized officer.

7. All operations shall be performed in a good and workmanlike manner so as to ensure protection of the environment and the health and safety of the public.

8. All activities directly or indirectly associated with construction, operation and maintenance shall be conducted within the limits of the approved right-of-way. This right-of-way does not allow for any surface disturbing activities outside the right-of-way area.

9. The holder(s) shall comply with all applicable Federal laws and regulations existing or hereafter enacted or promulgated. In any event, the holder(s) shall comply with the Toxic Substances Control Act of 1976, as amended (15 U.S.C. 2601, et.seq.) with regard to any toxic substances that are used, generated by or stored on the right-of-way or on facilities authorized under this right-of-way grant. (See 40 CFR, Part 702-799 and especially, provisions on polychlorinated biphenyls, 40 CFR 761.1-761.193.) Additionally, any release of toxic substances (leaks, spills, etc.) in excess of the reportable quantity established by 40 CFR, Part 117 shall be reported as required by the Comprehensive Environmental Response, Compensation and Liability Act of 1980, Section 102b. A copy of any report required or requested by any Federal agency or State government as a result of a reportable release or spill of any toxic substances shall be furnished to the Authorized Officer concurrent with the filing of the reports to the involved Federal agency or State government.

10. The holder shall notify the Authorized Officer prior to commencement of emergency maintenance outside the right-of-way to discuss repair and construction activities, since the authorization is within the boundaries of the Tanner Wash Area of Critical Environmental Concern (ACEC).

11. No construction or routine maintenance activities shall be performed during periods when the soil is too wet to adequately support construction equipment. If such equipment creates ruts in excess of 4 inches deep, the soil shall be deemed too wet to adequately support construction equipment.

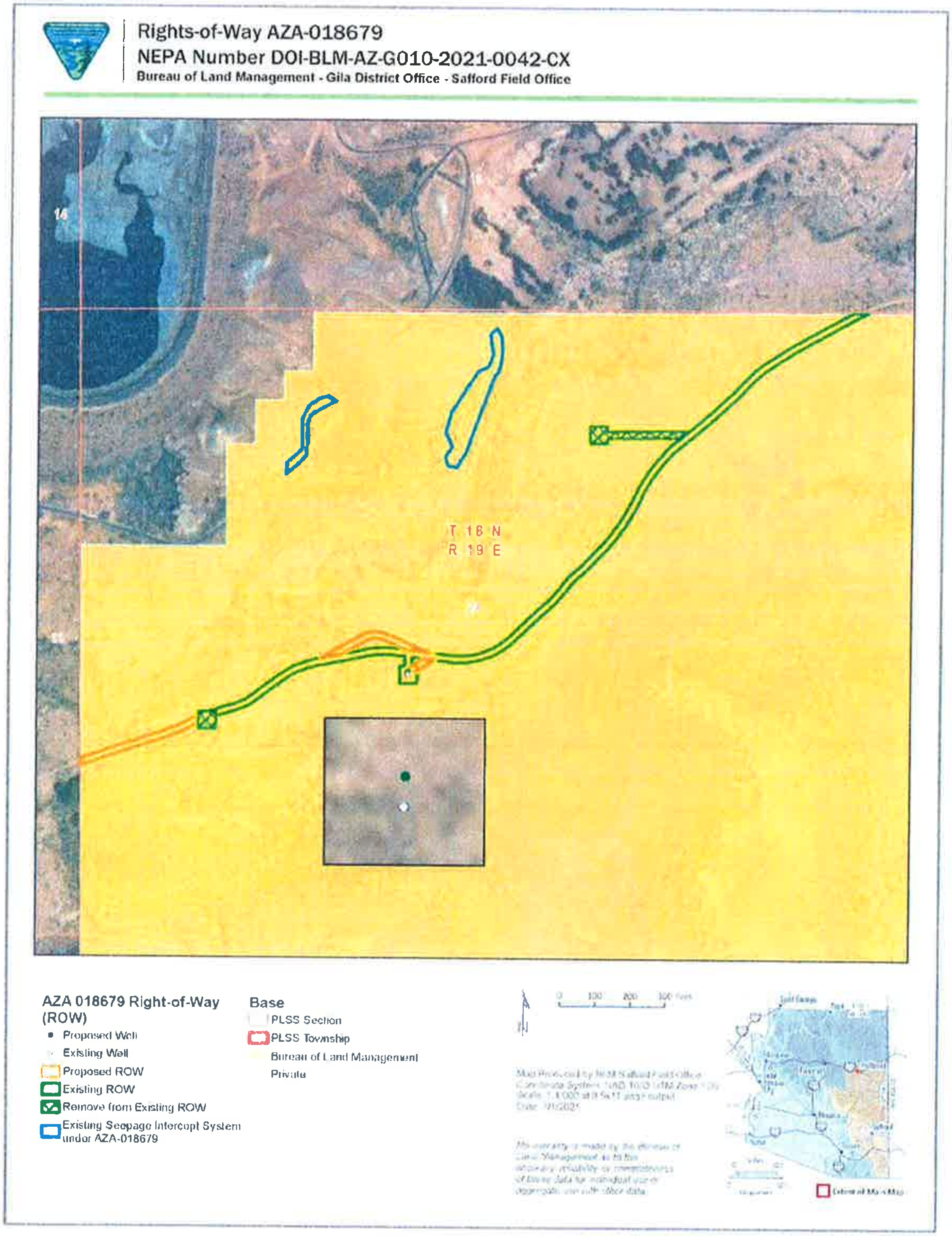
12. The holder must amend the right-of-way grant at any time additional land, equipment, and/or new uses are proposed which are beyond the scope of the existing authorization.

13. At least 60 days prior to termination of the right-of-way, the holder shall contact the Authorized Officer to arrange a joint inspection of the right-of-way. This inspection will be held to agree to an acceptable termination (and rehabilitation) plan. This plan shall include, but is not limited to, removal of facilities, drainage structures, or surface material, recontouring, top soiling, or seeding. The Authorized Officer must approve the plan in writing prior to the holder's commencement of any termination activities.

14. The holder shall notify the Authorized Officer of any address change that occurs during the term of the right-of-way.

15. Any changes to the authorization require prior written approval from the Authorized Officer.

Exhibit B: Map



Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER	A(18-20) 30 CBD
WELL REGISTRATION NUMBER	55 - 539103

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:

NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady - Senior Hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)

LATITUDE: 34 ° Degrees 55 ' Minutes 41.6 " N Seconds
LONGITUDE: 110 ° Degrees 16 ' Minutes 2.4 " W Seconds

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	SW 1/4	NW 1/4	SE 1/4

LAND SURFACE ELEVATION AT WELL: 5044 Feet Above Sea Level

METHOD OF LATITIDE / LONGITUDE (Check One) ☒ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade

COUNTY ASSESSOR'S PARCEL ID NUMBER

BOOK	MAP	PARCEL
109	31	019

*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One)
☒ NAD-83 ☐ Other *(please specify):*

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE Geronimo A
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	

6. Why was the well abandoned?

Poor Performance

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 539103

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole			Existing Casing (to the best of your knowledge)													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	40	12	0	20	5		X									
			20	40	5		X							X		.010

Condition of casing: ☐ Good ☐ Fair ☒ Poor

Existing Annular Material (to the best of your knowledge)												
DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (feet)	TO (feet)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	SAND	GRAVEL	SIZE
0	16				X							
16	18						X					
18	40									X		10/20

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER: 32 Feet Below Land Surface

DATE ABANDOMENT COMPLETED: 5/15/21

Casing Treatment							Sealing or Fill Material													
DEPTH FROM SURFACE		TREATMENT TYPE (T)					DEPTH FROM SURFACE		MATERIAL TYPE (T)											
														HIGH SOLIDS					
FROM (feet)	TO (feet)	SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED	FROM (feet)	TO (feet)	NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	40				X		0	40				X							15.1

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS
Casing removed with 8" Core barrel

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb Commercial Manager

SIGNATURE OF QUALIFYING PARTY: Jason Lamb

DATE: 5-21-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 1-800-352-8488

Well Abandonment Completion Report

FILE NUMBER
A(18-20) 30 CBD
WELL REGISTRATION NUMBER
55 - 539104

❖ Review instructions prior to completing form
❖ The drilling firm or single well licensee must file this report withing 30 days of completion of abandonment. (A.R.S. § 45-594, A.A.C. R12-15-816)

** PLEASE PRINT CLEARLY **

SECTION 1. ABANDONMENT AUTHORIZATION

Drilling Firm

Mail To:		
	NAME BOART LONGYEAR COMPANY	DWR LICENSE NUMBER 83
	ADDRESS 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER 623-889-7523
	CITY / STATE / ZIP GLENDALE, AZ 85303	FAX 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner Information

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL ARIZONA PUBLIC SERVICE	CONTACT PERSON NAME AND TITLE Clay Cady Senior Hydrologist
MAILING ADDRESS PO BOX 188 M/S 4458	TELEPHONE NUMBER 602-250-4617
CITY / STATE / ZIP JOSEPH CITY, AZ 86032	FAX

Location of Well

WELL LOCATION ADDRESS (IF ANY)						LATITUDE 34 ° Degrees 55 ' Minutes 42.1 " N Seconds LONGITUDE 110 ° Degrees 16 ' Minutes 2.6 " W Seconds
TOWNSHIP (N/S) 18.0N	RANGE (E/W) 20.0E	SECTION 30	160 ACRE SW 1/4	40 ACRE NW 1/4	10 ACRE SE 1/4	LAND SURFACE ELEVATION AT WELL 5044 Feet Above Sea Level
COUNTY ASSESSOR'S PARCEL ID NUMBER						METHOD OF LATITIDE / LONGITUDE (Check One) ☐ *GPS: Hand-Held ☐ USGS Quad Map ☐ Conventional Survey ☐ *GPS: Survey-Grade
BOOK 109	MAP 31		PARCEL 019			*If GPS WAS USED, GEOGRAPHIC COORDINATE DATUM (Check One) ☐ NAD-83 ☐ Other *(please specify):*

SECTION 3.

Questions	Yes	No	Explanation:
1. To your knowledge, is there any information that exists which indicates that the water in this well has been, may be or is contaminated?		X	IF YES, EXPLAIN (Attach additional page if nesessary)
2. Is there another well name or identification number associated with this well? (e.g., MW-1, PZ-4, Lot 29 Well, Smith Well, etc.)	X		IF YES, PLEASE STATE Geronimo B
3. Prior to abandonment, did the well have 20' of surface casing and 20' of grout in the annular space surrounding the casing?		X	If no, was the top 20' of casing removed prior to setting the cement plug? ☒ Yes ☐ No
4. Was the well backfilled above the cement plug?		X	
5. Was the well casing video logged?		X	
6. Why was the well abandoned? Poor Performance			

Well Abandonment Completion Report

WELL REGISTRATION NUMBER
55 - 539104

SECTION 4. ORIGINAL WELL CONSTRUCTION DESIGN (attach additional page if needed)

Existing Borehole: Depth From Surface FROM (feet)	TO (feet)	BOREHOLE DIAMETER (inches)	Existing Casing (to the best of your knowledge): Depth From Surface FROM (feet)	TO (feet)	OUTER DIAMETER (inches)	Material Type (T): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	Perforation Type (T): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (inches)
0	40	12.00	0	20	5		X			X						
			20	40	5		X							X		.010

Condition of casing: ☐ Good | Fair ☒ Poor

Existing Annular Material (to the best of your knowledge)

Depth From Surface FROM (feet)	TO (feet)	Annular Material Type (T): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	Bentonite: GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL DESCRIBE	Filter Pack: SAND	GRAVEL	SIZE
0	16				X							
16	18						X					
18	40									X		10/20

SECTION 5. ACTUAL WELL ABANDONMENT DESIGN (attach additional page if needed)

Refer to ADWR's Well Abandonment Hanbook for additional information

DEPTH TO WATER 3.2 Feet Below Land Surface

DATE ABANDOMENT COMPLETED 5/15/21

Casing Treatment

Depth From Surface FROM (feet)	TO (feet)	Treatment Type (T): SONAR JET	BRUSH OR SCRAPE	MILLS KNIFE	CASING REMOVAL (explain in Remarks)	IF OTHER TYPE, DESCRIBE OR IF CASING WAS PERFORATED, DESCRIBE SPACING AND PERFORATIONS THAT WERE ADDED
0	40				X	Overdrill

Sealing or Fill Material

Depth From Surface FROM (feet)	TO (feet)	Material Type (T): NEAT CEMENT	CONCRETE	SAND-CEMENT GROUT	CEMENT-BENTONITE GROUT	SAND-BENTONITE GROUT	High Solids: GROUT	CHIPS	PELLETS	SAND	MIXING RATIO by (check one) ☐ Weight ☒ Volume	VOLUME OF MATERIAL USED (cubic feet)
0	40				X							15.0

Actual Abandonment Method (See Well Abandonment Handbook)

CHECK ONE

- ☒ Standard Method
- ☐ Alternative 1
- ☐ Alternative 2
- ☐ Alternative 3
- ☐ Alternative 4
  - ☐ *Variance Option*
- ☐ Alternative 5
  - ☐ *Variance Option 1*
  - ☐ *Variance Option 2*
- ☐ Other *(please specify)*

Emplacement Method of Sealing or Fill Material

CHECK ONE

- ☐ Gravity
- ☐ Pressure Grouting
- ☒ Tremie Pumped
- ☐ Other *(please specify)*

REMARKS Over drilled using 8" Core barrel

I state that this is filed in compliance with A.R.S. § 45-594 and A.A.C. R12-15-816 and is complete and correct to the best of my knowledge and

TYPE OR PRINT NAME AND TITLE: Jason Lamb Commercial Manager

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-21-21

Arizona Department of Water Resources
Groundwater Permitting and Wells
PO Box 36020 • Phoenix, Arizona 85067-6020
(602) 771-8527 • 602-771-8500
www.azwater.gov

Well Driller Report and Well Log

THIS REPORT MUST BE FILED WITHIN 30 DAYS OF COMPLETING THE WELL. PURSUANT TO ARIZONA REVISED STATUTE 45-600 AND A.A.C. RULE R12-15-808.

WELL DRILLER LOGS AND REPORTS CAN ALSO BE DONE ONLINE AT:
http://www.azwater.gov/eForms/Forms/DL/DWR_DL.aspx

FILE NUMBER: A(18-20) 30 CBD
WELL REGISTRATION NUMBER: 55 - 926115
PERMIT NUMBER (IF ISSUED):

SECTION 1. DRILLING AUTHORIZATION

Drilling Firm

Mail To:

NAME: BOART LONGYEAR COMPANY	DWR LICENSE NUMBER: 83
ADDRESS: 7103 W. AUGUSTA AVENUE	TELEPHONE NUMBER: 623-889-7523
CITY / STATE / ZIP: GLENDALE, AZ, 85303	FAX: 623-486-1885

SECTION 2. REGISTRY INFORMATION

Well Owner

FULL NAME OF COMPANY, ORGANIZATION, OR INDIVIDUAL: ARIZONA PUBLIC SERVICE COMPANY

MAILING ADDRESS: PO BOX 188 M/S 4458

CITY / STATE / ZIP: JOSEPH CITY, AZ, 86032

CONTACT PERSON NAME AND TITLE: Clay Cady - Senior Hydrologist

TELEPHONE NUMBER: 602 2504617 FAX:

WELL NAME (e.g., MW-1, PZ-3, lot 25 Well, Smith Well, etc.): GSX-1R

COUNTY	ASSESSOR'S PARCEL ID NUMBER (MOST RECENT) BOOK	MAP	PARCEL
NAVAJO	109	31	019

Location of Well

WELL LOCATION ADDRESS (IF ANY):

TOWNSHIP (N/S)	RANGE (E/W)	SECTION	160 ACRE	40 ACRE	10 ACRE
18.0N	20.0E	30	SW 1/4	NW 1/4	SE 1/4

LATITUDE DEGREES	MINUTES	SECONDS	LONGITUDE DEGREES	MINUTES	SECONDS
34	55	41.6 N	110	16	2.3 W

METHOD OF LATITUDE/LONGITUDE (CHECK ONE): [X] *GPS: Hand-Held [ ] *GPS: Survey-Grade [ ] TOPO

*LATITUDE/LONGITUDE DATUM, GPS (CHECK ONE): [X] NAD83 [ ] NAD27 [ ] WGS84 [ ] Other

METHOD OF ELEVATION (CHECK ONE): [X] *GPS: Hand-Held [ ] *GPS: Survey-Grade [ ] TOPO

LAND SURFACE ELEVATION AT WELL: ELEVATION 5044 Feet Above Sea Level

*ELEVATION DATUM (CHECK ONE): [X] NAVD88 [ ] NGVD29 [ ] OTHER

SECTION 3. WELL CONSTRUCTION DETAILS

Drilling Method

CHECK ONE
- [ ] Air Rotary
- [ ] Bored or Augered
- [ ] Cable Tool
- [ ] Dual Rotary
- [ ] Mud Rotary
- [ ] Reverse Circulation
- [ ] Driven
- [ ] Jetted
- [ ] Air Percussion / Odex Tubing
- [X] Other (please specify): Roto Sonic

Method of Well Development

CHECK ONE
- [ ] Airlift
- [X] Bail
- [ ] Surge Block
- [X] Surge Pump
- [ ] Other (please specify)

Method of Sealing at Reduction Points

CHECK ONE
- [X] None
- [ ] Packed
- [ ] Swedged
- [ ] Welded
- [ ] Other (please specify)

Condition of Well

CHECK ONE
- [X] Capped
- [ ] Pump Installed
- [ ] Abandoned
- [ ] **Not Drilled**

Construction Dates

DATE WELL CONSTRUCTION STARTED: 5/16/21

DATE WELL CONSTRUCTION COMPLETED: 5/16/21

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and belief.

SIGNATURE OF QUALIFYING PARTY: [signature]

DATE: 5-21-21

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926115

SECTION 4. WELL CONSTRUCTION DESIGN (AS BUILD) (attach additional page if needed)

Depth

DEPTH OF BORING	DEPTH OF COMPLETED WELL
54 Feet Below Land Surface	54 Feet Below Land Surface

Water Level Information

STATIC WATER LEVEL	DATE MEASURED	TIME MEASURED	IF FLOWING WELL, METHOD OF FLOW REGULATION
21.6 Feet Below Land Surface	5/16/21	1:00 pm	☐ Valve ☐ Other:

Borehole

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	BOREHOLE DIAMETER (inches)
0	54	10.5

Installed Casing

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	OUTER (inches)	MATERIAL TYPE (X): STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	PERFORATION TYPE (X): BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE (inches)
+2	5	10	X			Monument							
+1	29	6		X		S80	X						
29	49	6	/	X		S80					X		.020
49	54	6		X		S80	X						

Installed Annular Material

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	ANNULAR MATERIAL TYPE (X): NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	BENTONITE: GROUT	BENTONITE: CHIPS	BENTONITE: PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	FILTER PACK: SAND	GRAVEL	SIZE
0	22			X								
22	24						X					
24	26									X		20/40
26	50									X		12/20
50	54						X					

Well Driller Report and Well Log

WELL REGISTRATION NUMBER
55 - 926115

SECTION 5. GEOLOGIC LOG OF WELL

DEPTH FROM SURFACE FROM (feet)	DEPTH FROM SURFACE TO (feet)	**Description** Describe material, grain size, color, etc.	Check (X) every interval where water was encountered (if known)
0	6	Hydrovac	
6	9	Silty Sand	
9	12.5	Sandy Silt	
12.5	17	Sandy Clay	
17	22	Silty Sand	
22	29	Sandy Silt	
29	47	Sandy Clay	
47	49.5	Silty Sand w/ gravels	
49.5	54	Moqui	

Notice of Intent to Drill, Deepen, or Modify a *Monitor / Piezometer / Environmental* Well

WELL REGISTRATION NUMBER 55 - 926115

SECTION 6. WELL CONSTRUCTION DETAILS

Drill Method
CHECK ONE
- ☐ Air Rotary
- ☐ Bored or Augered
- ☐ Cable Tool
- ☐ Dual Rotary
- ☐ Mud Rotary
- ☐ Reverse Circulation
- ☐ Driven
- ☐ Jetted
- ☐ Air Percussion / Odex Tubing
- ☒ Other (*please specify*): RotoSonic

DATE CONSTRUCTION TO BEGIN

Method of Well Development
CHECK ONE
- ☐ Airlift
- ☐ Bail
- ☐ Surge Block
- ☐ Surge Pump
- ☐ Other (*please specify*): Swab/Pump

Grout Emplacement Method
CHECK ONE
- ☐ Tremie Pumped (*Recommended*)
- ☐ Gravity
- ☐ Pressure Grout
- ☐ Other (*please specify*):

Method of Sealing at Reduction Points
CHECK ONE
- ☐ None
- ☐ Welded
- ☐ Swedged
- ☐ Packed
- ☐ Other (*please specify*):

Surface or Conductor Casing
CHECK ONE
- ☐ Flush Mount in a vault
- ☐ Extends at least 1' above grade

SECTION 7. PROPOSED WELL CONSTRUCTION PLAN (attach additional page if needed)

Attach a well construction diagram labeling all specifications below.

Borehole			Casing													
DEPTH FROM SURFACE			DEPTH FROM SURFACE			MATERIAL TYPE (T)				PERFORATION TYPE (T)						
FROM (*feet*)	TO (*feet*)	BOREHOLE DIAMETER (*inches*)	FROM (*feet*)	TO (*feet*)	OUTER DIAMETER (*inches*)	STEEL	PVC	ABS	IF OTHER TYPE, DESCRIBE	BLANK OR NONE	WIRE WRAP	SHUTTER SCREEN	MILLS KNIFE	SLOTTED	IF OTHER TYPE, DESCRIBE	SLOT SIZE IF ANY (*inches*)
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		
						☐	☐	☐		☐	☐	☐	☐	☐		

Annular Material

DEPTH FROM SURFACE		ANNULAR MATERIAL TYPE (T)								FILTER PACK		
						BENTONITE						
FROM (*feet*)	TO (*feet*)	NONE	CONCRETE	NEAT CEMENT OR CEMENT GROUT	CEMENT-BENTONITE GROUT	GROUT	CHIPS	PELLETS	IF OTHER TYPE OF ANNULAR MATERIAL, DESCRIBE	SAND	GRAVEL	SIZE
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	
		☐	☐	☐	☐	☐	☐	☐		☐	☐	

IF THIS WELL HAS NESTED CASINGS, SPECIFY NUMBER OF CASING STRINGS

EXPECTED DEPTH TO WATER (*Feet Below Ground Surface*)

SECTION 8. PERMISSION TO ACCESS

☐ By checking this box, I hereby provide ADWR permission to enter the property for the purpose of taking water level measurements at this well. (*See instructions.*)

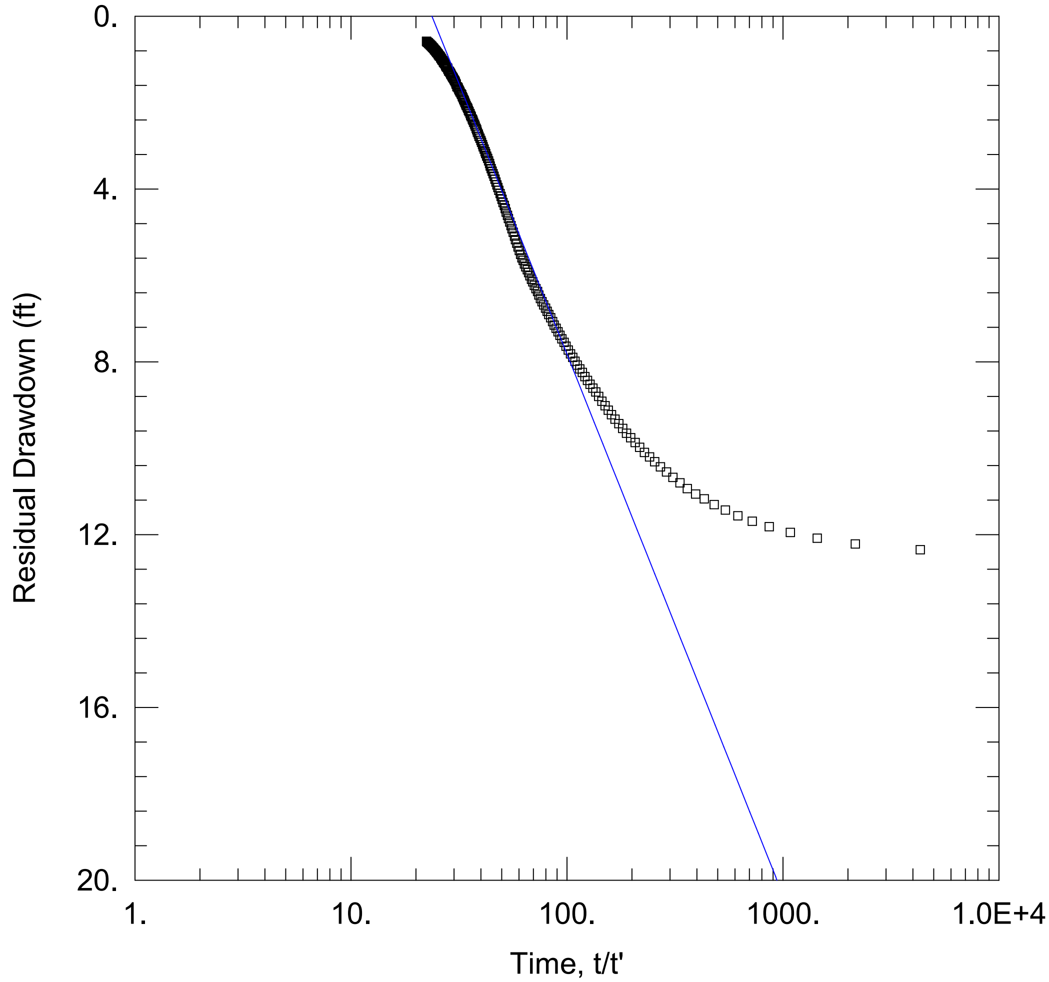
SECTION 9. LAND OWNER AND WELL OWNER SIGNATURE

I state that this notice is filed in compliance with A.R.S. § 45-596 and is complete and correct to the best of my knowledge and

Land Owner	Well Owner (*if different from Land Owner; See instructions*)
PRINT NAME AND TITLE: Philip Richards, Manager	PRINT NAME AND TITLE:
SIGNATURE OF LAND OWNER: Philip Richards	SIGNATURE OF WELL OWNER:
DATE: 4/21/2021	DATE:
☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.	☐ By checking this box, you agree to allow ADWR to contact you via electronic mail.
EMAIL ADDRESS:	EMAIL ADDRESS:

Appendix E

AQTESOLV Analysis Results



WELL TEST ANALYSIS

Data Set: G:\...\GSX-1R_PW_Theis_recovery.aqt
Date: 11/23/21 Time: 10:44:40

PROJECT INFORMATION

Company: Wood
Client: APS
Project: 1420182040
Location: ChollaPP
Test Well: GSX-01R
Test Date: 6/28/21

AQUIFER DATA

Saturated Thickness: 24. ft Anisotropy Ratio (Kz/Kr): 0.001

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
GSX-01R	669831.77	1429203.94

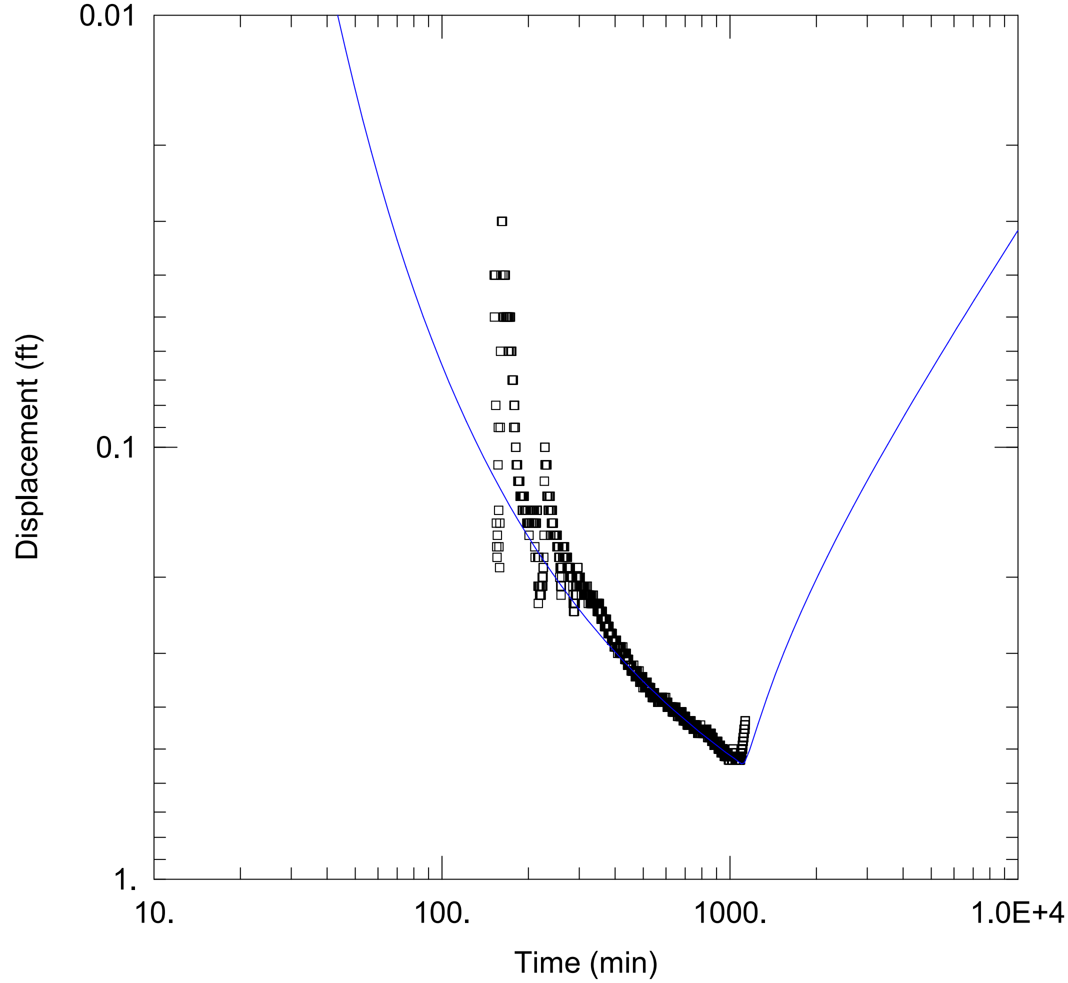
Observation Wells

Well Name	X (ft)	Y (ft)
□ GSX-01R	669831.77	1429203.94

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)

T = 2.818 ft^2/day S/S' = 23.74



WELL TEST ANALYSIS

Data Set: G:\...\GSX-1R_PW_EW3_OW_HanJacDD.aqt
Date: 11/24/21 Time: 09:36:50

PROJECT INFORMATION

Company: Wood
Client: APS
Project: 1420182040
Location: ChollaPP
Test Well: GSX-1R
Test Date: 6/28/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
GSX-1R	669831.77	1429203.94

Observation Wells

Well Name	X (ft)	Y (ft)
□ EW-3	669767.09	1429260.98

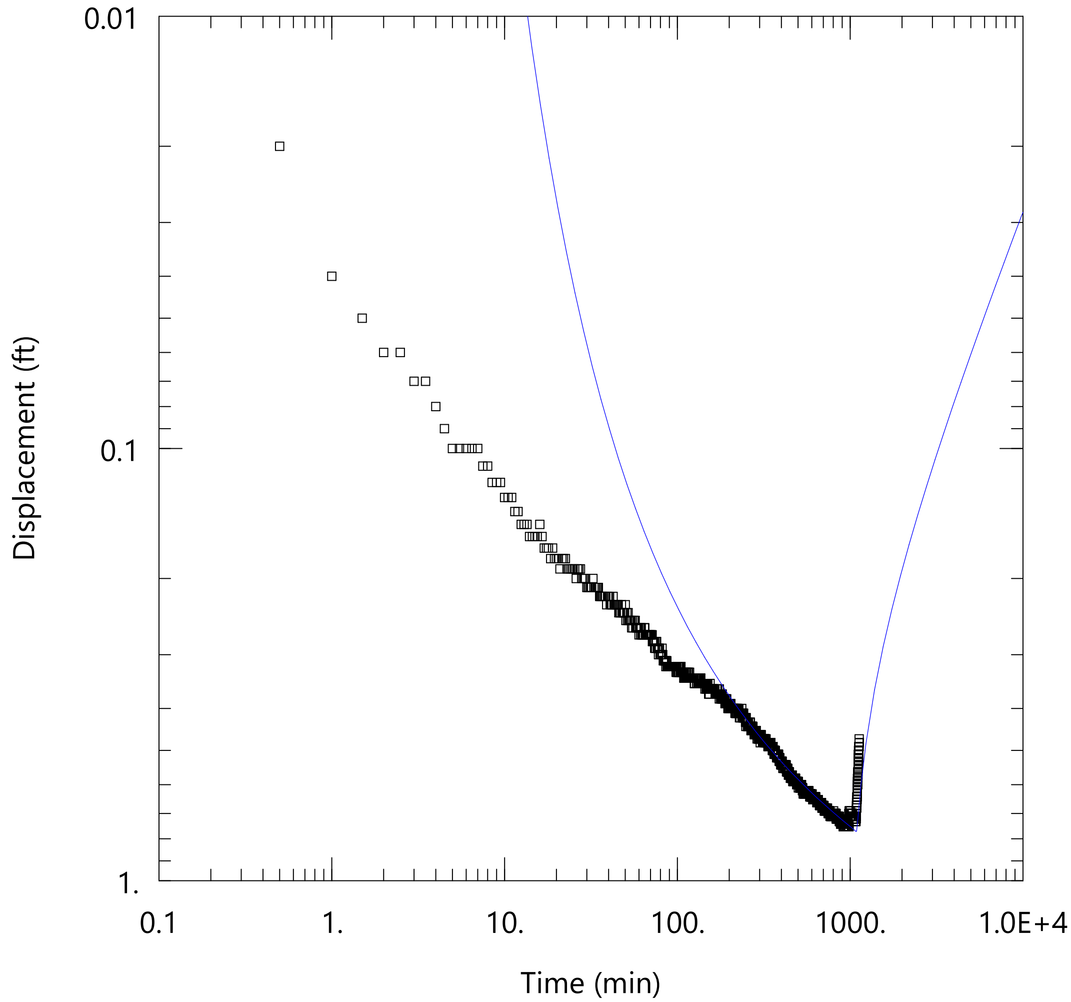
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 54.86 ft^2/day
r/B = 0.01
b = 24. ft

S = 0.001985
Kz/Kr = 0.01



WELL TEST ANALYSIS

Data Set: G:\...\GSX-1R_PW_F111_OW_HanJacDD.aqt
Date: 11/23/21 Time: 10:48:58

PROJECT INFORMATION

Company: Wood
Client: APS
Project: 1420182040
Location: ChollaPP
Test Well: GSX-1R
Test Date: 6/28/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
GSX-1R	669831.77	1429203.94

Observation Wells

Well Name	X (ft)	Y (ft)
□ F-111	669807.51	1429225.07

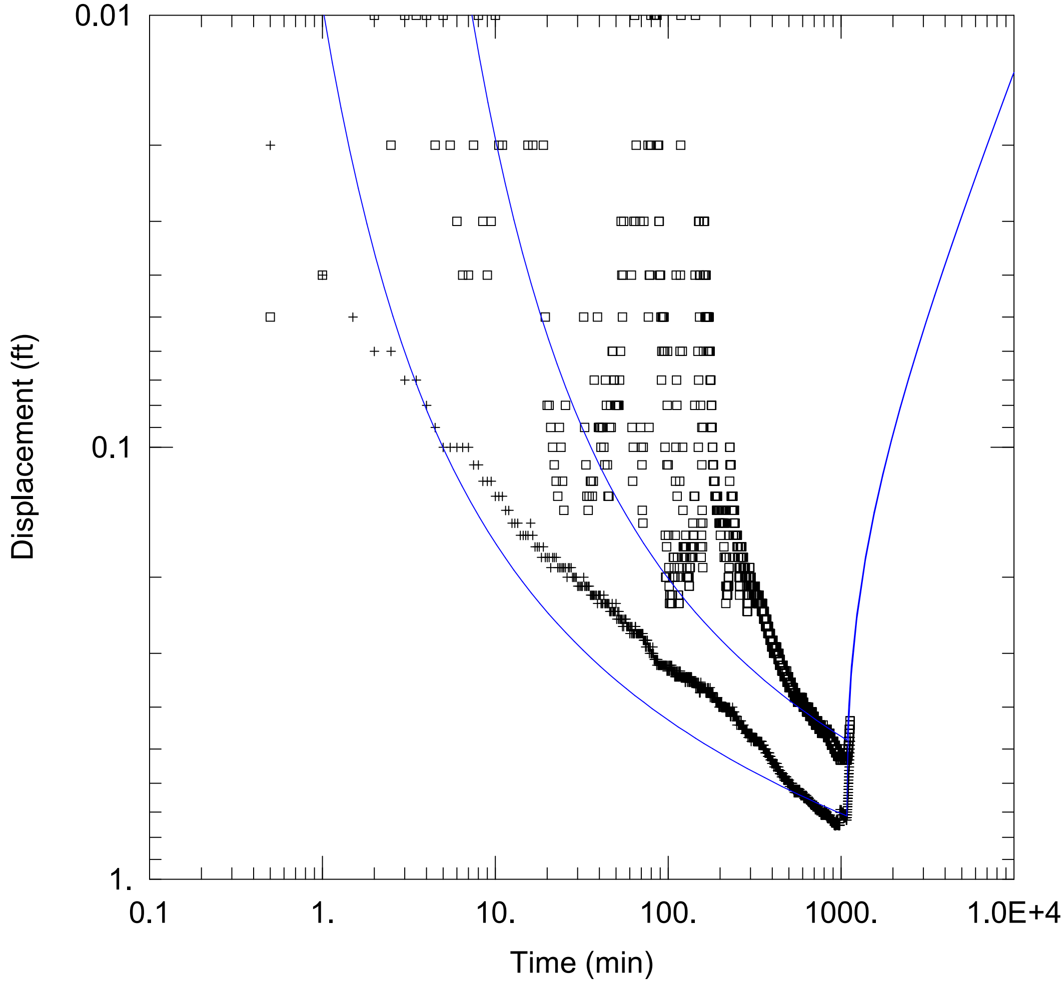
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 60.94 ft^2/day
r/B = 0.01
b = 24. ft

S = 0.004775
Kz/Kr = 0.01



WELL TEST ANALYSIS

Data Set: G:\...\GSX-1R_PW_EW3F111_OW_HantJacDD.aqt
Date: 11/24/21 Time: 09:39:34

PROJECT INFORMATION

Company: Wood
Client: APS
Project: 1420182040
Location: ChollaPP
Test Well: GSX-1R
Test Date: 6/28/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
GSX-1R	669831.77	1429203.94

Observation Wells

Well Name	X (ft)	Y (ft)
□ EW-3	669767.09	1429260.98
+ F-111R	669807.51	1429225.07

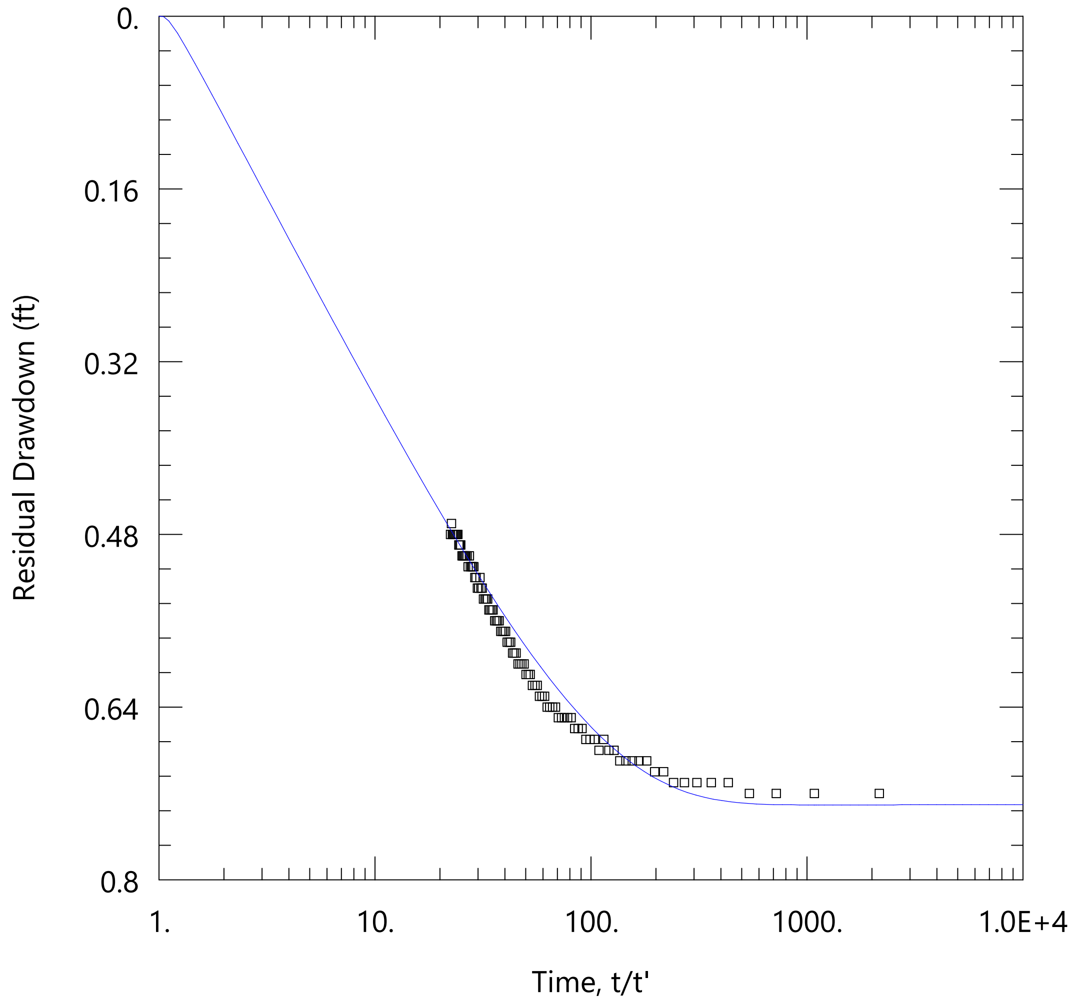
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 126.4 ft^2/day
1/B = 0.000116 ft^{-1}
b = 24. ft

S = 0.0005653
Kz/Kr = 0.01



WELL TEST ANALYSIS

Data Set: G:\...\GSX-1R_PW_F111_OW_HanJacResidDD.aqt
Date: 11/23/21 Time: 11:01:49

PROJECT INFORMATION

Company: Wood
Client: APS
Project: 1420182040
Location: ChollaPP
Test Well: GSX-1R
Test Date: 6/28/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
GSX-1R	669831.77	1429203.94

Observation Wells

Well Name	X (ft)	Y (ft)
□ F-111	669807.51	1429225.07

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 91.77 ft^2/day
S = 0.001651
r/B = 0.06
Kz/Kr = 0.01
b = 24. ft

Appendix F

Water Quality Laboratory Reports

eurofins | Environment Testing America

1 2 3 4 5 6 7 8 9 10 11 12 13 14

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-165381-1
Client Project/Site: APS FAP (Cholla)

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
6/29/2021 7:01:48 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H1	Sample analysis performed past holding time.
H3	Sample was received and/ or analysis requested past holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-165381-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-165381-1

Comments
No additional comments.

Receipt
The samples were received on 6/14/2021 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

Please verify project used to complete login.
Client did not list analytes needed for 300 and metals needed 200.7 and 200.8.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-245649 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-DEV-W126R-0621 (550-165381-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 2320B: Reanalysis of the following samples were performed outside of the 14 day analytical holding time for Alkalinity by method SM 2320B due to an instrument failure that occurred during the initial run; CH-DEV-W126R-0621 (550-165381-1) and CH-DEV-W123R-0621 (550-165381-2). The initial analysis occurred within holding time although an instrument failure occurred interrupting the analytical run, therefore the initial run had no usable data. Reanalysis occurred promptly although the holding time had already been exceeded. As such, the data has been reported and qualified with H1 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-165381-1	CH-DEV-W126R-0621	Water	06/04/21 12:50	06/14/21 14:00	
550-165381-2	CH-DEV-W123R-0621	Water	06/05/21 09:55	06/14/21 14:00	

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Client Sample ID: CH-DEV-W126R-0621

Lab Sample ID: 550-165381-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.64		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	40		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	410		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	49		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4500	D2	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000076	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0023		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0091		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000061	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0038		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.27		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0018		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.48		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	31		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3800	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000088	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0048		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.016		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00097	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0036		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0012	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.35		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00024	D1	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-DEV-W126R-0621

Lab Sample ID: 550-165381-1
Date Collected: 06/04/21 12:50
Matrix: Water
Date Received: 06/14/21 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6600	D2	400	100	mg/L			06/26/21 08:55	200
Fluoride	5.0	D1	0.80	0.095	mg/L			06/26/21 08:28	2
Sulfate	3800	D2	400	85	mg/L			06/26/21 08:55	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 19:27	1
Lithium	0.64		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:45	1
Boron	40		0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 18:14	1
Calcium	750		2.0	0.013	mg/L		06/15/21 07:25	06/16/21 19:27	1
Magnesium	410		2.0	0.044	mg/L		06/15/21 07:25	06/16/21 19:27	1
Potassium	49		0.50	0.17	mg/L		06/15/21 07:25	06/16/21 19:27	1
Sodium	4500	D2	5.0	0.31	mg/L		06/15/21 07:25	06/18/21 16:04	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000076	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 13:10	1
Arsenic	0.0023		0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 13:10	1
Barium	0.0091		0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 13:10	1
Cadmium	0.000061	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 13:10	1
Chromium	0.0011		0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 13:10	1
Cobalt	0.0038		0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 13:10	1
Lead	ND	D1 E8	0.0010	0.00044	mg/L		06/16/21 08:27	06/25/21 18:51	2
Molybdenum	0.27		0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 13:10	1
Selenium	0.0018		0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 13:10	1
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L		06/16/21 08:27	06/25/21 18:51	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L			06/20/21 16:47	1
Bicarbonate Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L			06/20/21 16:47	1
Carbonate Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Alkalinity, Phenolphthalein	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Hydroxide Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Total Dissolved Solids	16000	D2 H3	200	200	mg/L			06/16/21 10:20	1

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2
Date Collected: 06/05/21 09:55
Matrix: Water
Date Received: 06/14/21 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5000	D2	400	100	mg/L			06/26/21 09:50	200
Fluoride	5.0	D1	0.80	0.095	mg/L			06/26/21 09:22	2
Sulfate	3100	D2	400	85	mg/L			06/26/21 09:50	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 19:31	1
Lithium	0.48		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:02	1
Boron	31		0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 18:18	1

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2

Date Collected: 06/05/21 09:55

Matrix: Water

Date Received: 06/14/21 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	750		2.0	0.013	mg/L		06/15/21 07:25	06/16/21 19:31	1
Magnesium	230		2.0	0.044	mg/L		06/15/21 07:25	06/16/21 19:31	1
Potassium	30		0.50	0.17	mg/L		06/15/21 07:25	06/16/21 19:31	1
Sodium	3800	D2	2.5	0.15	mg/L		06/15/21 07:25	06/17/21 18:11	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000088	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 13:12	1
Arsenic	0.0048		0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 13:12	1
Barium	0.016		0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 13:12	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 13:12	1
Chromium	0.00097	E4	0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 13:12	1
Cobalt	0.0036		0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 13:12	1
Lead	0.0012	D1	0.0010	0.00044	mg/L		06/16/21 08:27	06/25/21 18:54	2
Molybdenum	0.35		0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 13:12	1
Selenium	0.0015		0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 13:12	1
Thallium	0.00024	D1	0.00020	0.000026	mg/L		06/16/21 08:27	06/25/21 18:54	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L			06/20/21 16:55	1
Bicarbonate Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L			06/20/21 16:55	1
Carbonate Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Alkalinity, Phenolphthalein	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Hydroxide Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Total Dissolved Solids	12000	D2 H3	200	200	mg/L			06/16/21 10:20	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246378/1030
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			06/26/21 01:09	1
Fluoride	ND	E8	0.40	0.047	mg/L			06/26/21 01:09	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/26/21 01:09	1

Lab Sample ID: LCS 550-246378/31
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	20.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-246378/32
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.08		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.1		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-166000-A-1 MS ^5
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	400	D2	100	498	D2	mg/L		103	80 - 120
Fluoride	0.50	E4 D1	20.0	20.9	D1	mg/L		102	80 - 120
Sulfate	3200	E2 M3 D2	100	3200	D2 E2 M3	mg/L		28	80 - 120

Lab Sample ID: 550-166000-A-1 MSD ^5
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	400	D2	100	497	D2	mg/L		102	80 - 120	0	20
Fluoride	0.50	E4 D1	20.0	21.0	D1	mg/L		102	80 - 120	0	20
Sulfate	3200	E2 M3 D2	100	3200	D2 E2 M3	mg/L		27	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-245252/1-A
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 17:57	1
Calcium	ND	E8	2.0	0.013	mg/L		06/15/21 07:25	06/16/21 17:57	1
Magnesium	ND	E8	2.0	0.044	mg/L		06/15/21 07:25	06/16/21 17:57	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-245252/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245474
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		06/15/21 07:25	06/16/21 17:57	1
Sodium	0.0887	E4	0.50	0.031	mg/L		06/15/21 07:25	06/16/21 17:57	1

Lab Sample ID: MB 550-245252/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245649
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00737	E4	0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 15:38	1
Sodium	ND	E8	0.50	0.031	mg/L		06/15/21 07:25	06/17/21 15:38	1

Lab Sample ID: LCS 550-245252/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245474
Prep Batch: 245252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	20.9		mg/L		100	85 - 115
Magnesium	21.0	20.7		mg/L		98	85 - 115
Potassium	20.0	19.6		mg/L		98	85 - 115
Sodium	20.0	19.6		mg/L		98	85 - 115

Lab Sample ID: LCS 550-245252/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245649
Prep Batch: 245252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.974		mg/L		97	85 - 115
Sodium	20.0	19.7		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-245252/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245474
Prep Batch: 245252

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.958		mg/L		96	85 - 115	4	20
Calcium	21.0	19.9		mg/L		95	85 - 115	5	20
Magnesium	21.0	19.8		mg/L		94	85 - 115	4	20
Potassium	20.0	19.2		mg/L		96	85 - 115	2	20
Sodium	20.0	19.1		mg/L		96	85 - 115	3	20

Lab Sample ID: LCSD 550-245252/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245649
Prep Batch: 245252

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.975		mg/L		98	85 - 115	0	20
Sodium	20.0	19.6		mg/L		98	85 - 115	0	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-165217-E-1-B MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245474
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00037	E4	1.00	1.02		mg/L		102	70 - 130
Calcium	93		21.0	110	M3	mg/L		80	70 - 130
Magnesium	18		21.0	38.1		mg/L		96	70 - 130
Potassium	2.0		20.0	22.4		mg/L		102	70 - 130
Sodium	350	M3	20.0	353	M3	mg/L		15	70 - 130

Lab Sample ID: 550-165217-E-1-B MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245649
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.65		1.00	1.63		mg/L		97	70 - 130
Sodium	360	M3	20.0	361	M3	mg/L		6	70 - 130

Lab Sample ID: 550-165217-E-1-C MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245474
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00037	E4	1.00	1.07		mg/L		107	70 - 130	4	20
Calcium	93		21.0	113	M3	mg/L		94	70 - 130	3	20
Magnesium	18		21.0	39.1		mg/L		101	70 - 130	3	20
Potassium	2.0		20.0	23.2		mg/L		106	70 - 130	4	20
Sodium	350	M3	20.0	362	M3	mg/L		59	70 - 130	2	20

Lab Sample ID: 550-165217-E-1-C MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 245649
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.65		1.00	1.63		mg/L		98	70 - 130	0	20
Sodium	360	M3	20.0	364	M3	mg/L		23	70 - 130	1	20

Lab Sample ID: MB 280-540498/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 540891
Prep Batch: 540498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:19	1

Lab Sample ID: LCS 280-540498/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 540891
Prep Batch: 540498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-149951-H-1-B MS
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.18		1.00	1.22		mg/L		104	70 - 130

Lab Sample ID: 280-149951-H-1-C MSD
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.18		1.00	1.21		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-245378/1-A
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000630	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 12:13	1
Arsenic	0.000424	E4	0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 12:13	1
Barium	ND	E8	0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 12:13	1
Cadmium	0.0000330	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 12:13	1
Chromium	ND	E8	0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 12:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 12:13	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 12:13	1
Selenium	ND	E8	0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 12:13	1

Lab Sample ID: MB 550-245378/1-A
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	E8	0.00050	0.00022	mg/L		06/16/21 08:27	06/25/21 18:18	1
Thallium	0.0000320	E4	0.00010	0.000013	mg/L		06/16/21 08:27	06/25/21 18:18	1

Lab Sample ID: LCS 550-245378/4-A
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0961		mg/L		96	85 - 115
Arsenic	0.100	0.0990		mg/L		99	85 - 115
Barium	0.100	0.109		mg/L		109	85 - 115
Cadmium	0.100	0.0999		mg/L		100	85 - 115
Chromium	0.100	0.104		mg/L		104	85 - 115
Cobalt	0.100	0.104		mg/L		104	85 - 115
Molybdenum	0.100	0.0994		mg/L		99	85 - 115
Selenium	0.100	0.0979		mg/L		98	85 - 115

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-245378/4-A
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.101		mg/L		101	85 - 115
Thallium	0.100	0.105		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-245378/5-A
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0985		mg/L		99	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		98	85 - 115	1	20
Barium	0.100	0.110		mg/L		110	85 - 115	0	20
Cadmium	0.100	0.101		mg/L		101	85 - 115	2	20
Chromium	0.100	0.104		mg/L		104	85 - 115	0	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	1	20
Molybdenum	0.100	0.103		mg/L		103	85 - 115	3	20
Selenium	0.100	0.0992		mg/L		99	85 - 115	1	20

Lab Sample ID: LCSD 550-245378/5-A
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.100	0.101		mg/L		101	85 - 115	0	20
Thallium	0.100	0.102		mg/L		102	85 - 115	3	20

Lab Sample ID: 550-165465-B-1-A MS
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00020	E4	0.100	0.101		mg/L		100	70 - 130
Arsenic	0.0068		0.100	0.107		mg/L		100	70 - 130
Barium	0.11		0.100	0.228		mg/L		113	70 - 130
Cadmium	0.00030		0.100	0.0984		mg/L		98	70 - 130
Chromium	ND	E8	0.100	0.103		mg/L		103	70 - 130
Cobalt	0.000092	E4	0.100	0.102		mg/L		101	70 - 130
Molybdenum	0.011		0.100	0.116		mg/L		105	70 - 130
Selenium	ND	E8	0.100	0.0995		mg/L		99	70 - 130

Lab Sample ID: 550-165465-B-1-A MS
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND	E8	0.100	0.0969		mg/L		97	70 - 130
Thallium	0.00017		0.100	0.0971		mg/L		97	70 - 130

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-165465-B-1-B MSD
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00020	E4	0.100	0.0985		mg/L		98	70 - 130	2	20
Arsenic	0.0068		0.100	0.106		mg/L		99	70 - 130	1	20
Barium	0.11		0.100	0.227		mg/L		112	70 - 130	0	20
Cadmium	0.00030		0.100	0.0980		mg/L		98	70 - 130	0	20
Chromium	ND	E8	0.100	0.102		mg/L		102	70 - 130	1	20
Cobalt	0.000092	E4	0.100	0.100		mg/L		100	70 - 130	1	20
Molybdenum	0.011		0.100	0.115		mg/L		104	70 - 130	1	20
Selenium	ND	E8	0.100	0.0993		mg/L		99	70 - 130	0	20

Lab Sample ID: 550-165465-B-1-B MSD
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND	E8	0.100	0.0989		mg/L		99	70 - 130	2	20
Thallium	0.00017		0.100	0.0970		mg/L		97	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-245770/32
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1

Lab Sample ID: LCS 550-245770/31
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-245770/44
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110	0	20

Lab Sample ID: 550-165361-B-1 DU
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	250		249		mg/L		0.1	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-165361-B-1 DU
Matrix: Water
Analysis Batch: 245770
Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	250		249		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-245391/1
Matrix: Water
Analysis Batch: 245391
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			06/16/21 10:20	1

Lab Sample ID: LCS 550-245391/2
Matrix: Water
Analysis Batch: 245391
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-245391/3
Matrix: Water
Analysis Batch: 245391
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	996		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-165344-M-11 DU
Matrix: Water
Analysis Batch: 245391
Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2300		2230		mg/L		2	10

1
2
3
4
5
6
7
8
9
10
11
12
13
14

HPLC/IC

Analysis Batch: 246378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	300.0	
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	300.0	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	300.0	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	300.0	
MB 550-246378/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-246378/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246378/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-166000-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-166000-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 245252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7	
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 245378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8	
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 245474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245252
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245252
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245252
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245252
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245252

Metals (Continued)

Analysis Batch: 245649 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8 LL	245378
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8 LL	245378
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8 LL	245378
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245378
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245378
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245378
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245378

Analysis Batch: 246435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8 LL	245378
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8 LL	245378
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8 LL	245378
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245378
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245378
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245378
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245378

Prep Batch: 540498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7	
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 540891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	540498
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	540498
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	540498
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	540498

General Chemistry

Analysis Batch: 245391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	SM 2540C	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	SM 2540C	
MB 550-245391/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 245391 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-245391/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-245391/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-165344-M-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 245770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	SM 2320B	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	SM 2320B	
MB 550-245770/32	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-245770/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-245770/44	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-165361-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Client Sample ID: CH-DEV-W126R-0621

Lab Sample ID: 550-165381-1

Date Collected: 06/04/21 12:50
Date Received: 06/14/21 14:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246378	06/26/21 08:28	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246378	06/26/21 08:55	JRP	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245474	06/16/21 19:27	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245649	06/17/21 18:14	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	245777	06/18/21 16:04	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 18:45	LMT	TAL DEN
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	245848	06/21/21 13:10	ARE	TAL PHX
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	246435	06/25/21 18:51	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 16:47	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245391		YET	TAL PHX
					(Start)	06/16/21 10:20		
					(End)	06/17/21 09:55		

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2

Date Collected: 06/05/21 09:55
Date Received: 06/14/21 14:00

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246378	06/26/21 09:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246378	06/26/21 09:50	JRP	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245474	06/16/21 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	245649	06/17/21 18:11	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245649	06/17/21 18:18	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:02	LMT	TAL DEN
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	245848	06/21/21 13:12	ARE	TAL PHX
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	246435	06/25/21 18:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 16:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245391		YET	TAL PHX
					(Start)	06/16/21 10:20		
					(End)	06/17/21 09:55		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Chain of Custody Record

534824

eurofins | Environment Testing TestAmerica

TAL-8210

Address: ____________

Natalie Chrisman

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

165381

Client Contact		Site Contact:	Date:	COC No:
Company Name: APS	Project Manager: ~~[illegible]~~	Lab Contact: Ken Daller	Carrier:	1 of 1 COCs
Address: 4801 Cholla Lake Rd	Tel/Email: (602) 250-3608			Sampler:
City/State/Zip: Joseph City, AZ 86032	Analysis Turnaround Time			For Lab Use Only:
Phone: (928) 587-0319	☐ CALENDAR DAYS ☐ WORKING DAYS			Walk-in Client:
Fax:	TAT if different from Below ____			Lab Sampling:
Project Name:	☐ 2 weeks			
Site: APS FAP (Cholla)	☐ 1 week			Job / SDG No.:
P O #	☐ 2 days			
	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	200.7, 200.8	300.0, SM2540C, SM2320B		Sample Specific Notes:
CH-DEV-W126R-0621	06/04/21	12:50	G	W	2	N	N	X	X	-01	development sample
CH-DEV-W123R-0621	06/05/21	09:55	"	"	2	N	N	X	X	-02	" "

550-165381 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Isaac Torres	Wood	06/14/21 13:40			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company:	Date/Time:
			Nicole [illegible]	EN PHX	6/14/21 1340

2.8°C ICE COO

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31142.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-165381-1
Address: 4955 Yarrow Street,	Due Date Requested: 7/18/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS FAP Choola	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-DEV-W126R-0621 (550-165381-1)	6/4/21	12:50 Arizona		Water			X	1	AZ Sample
CH-DEV-W123R-0621 (550-165381-2)	6/5/21	09:55 Arizona		Water			X	1	AZ Sample

550-165381 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Erica 06-15-21	Date/Time: 15:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: FedEx	Date/Time:	Company:	Received by: JCN	Date/Time: 6/16/21 0930	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: ✓ Yes Δ No	Custody Seal No.: 1337904		Cooler Temperature(s) °C and Other Remarks: 1.1 CF0.4 IR12		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company | Job Number: 550-165381-1

Login Number: 165381
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	No analysis requiring residual chlorine check assigned.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165381-1

Login Number: 165381
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver
List Creation: 06/16/21 04:11 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-165540-1
Laboratory Sample Delivery Group: APS Power plant
Client Project/Site: Replacement Well Initial Low Flow

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
6/29/2021 4:57:23 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

LINKS

Review your project results through Total Access

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-165540-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-165540-1

Comments
No additional comments.

Receipt
The samples were received on 6/16/2021 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

HPLC/IC
Method 300.0: The following sample was diluted for FLuoride due to the nature of the sample matrix: (550-165264-J-17 ^50). An elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-165540-1	CH-ABREP-W123R-0621	Water	06/15/21 11:06	06/16/21 12:50	
550-165540-2	CH-ABREP-W126R-0621	Water	06/15/21 09:12	06/16/21 12:50	

Detection Summary

Client: Arizona Public Service Company | Job ID: 550-165540-1
Project/Site: Replacement Well Initial Low Flow | SDG: APS Power plant

Client Sample ID: CH-ABREP-W123R-0621 | Lab Sample ID: 550-165540-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Boron	36		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.064	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	34		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0048		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0037		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.24		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	48		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	48		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-ABREP-W126R-0621 | Lab Sample ID: 550-165540-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Boron	42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.66		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	420		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	47		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0024		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0045		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.26		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	84		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	84		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-ABREP-W123R-0621
Lab Sample ID: 550-165540-1
Date Collected: 06/15/21 11:06
Matrix: Water
Date Received: 06/16/21 12:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5300	D2	400	100	mg/L			06/25/21 00:06	200
Fluoride	4.1	D1	0.80	0.095	mg/L			06/23/21 19:46	2
Sulfate	3500	D2	400	85	mg/L			06/23/21 20:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	36		0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:39	1
Lithium	0.52		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:19	1
Calcium	750		2.0	0.013	mg/L		06/21/21 08:31	06/22/21 17:11	1
Iron	0.064	E4	0.10	0.010	mg/L		06/21/21 08:31	06/22/21 17:11	1
Magnesium	280		2.0	0.044	mg/L		06/21/21 08:31	06/22/21 17:11	1
Potassium	34		0.50	0.17	mg/L		06/21/21 08:31	06/22/21 17:11	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0048		0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 15:20	1
Cobalt	0.0037		0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 15:20	1
Molybdenum	0.24		0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	48		6.0	6.0	mg/L			06/20/21 19:20	1
Bicarbonate Alkalinity as CaCO3	48		6.0	6.0	mg/L			06/20/21 19:20	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Total Dissolved Solids	12000	D2	200	200	mg/L			06/17/21 08:42	1

Client Sample ID: CH-ABREP-W126R-0621
Lab Sample ID: 550-165540-2
Date Collected: 06/15/21 09:12
Matrix: Water
Date Received: 06/16/21 12:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6400	D2	400	100	mg/L			06/25/21 00:33	200
Fluoride	3.6	D1	0.80	0.095	mg/L			06/23/21 20:22	2
Sulfate	3800	D2	400	85	mg/L			06/23/21 20:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	42		0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:43	1
Lithium	0.66		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:22	1
Calcium	760		2.0	0.013	mg/L		06/21/21 08:31	06/22/21 17:15	1
Iron	0.17		0.10	0.010	mg/L		06/21/21 08:31	06/22/21 17:15	1
Magnesium	420		2.0	0.044	mg/L		06/21/21 08:31	06/22/21 17:15	1
Potassium	47		0.50	0.17	mg/L		06/21/21 08:31	06/22/21 17:15	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0024		0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 15:26	1
Cobalt	0.0045		0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 15:26	1

Client Sample ID: CH-ABREP-W126R-0621 — Lab Sample ID: 550-165540-2

Date Collected: 06/15/21 09:12 — **Matrix: Water**
Date Received: 06/16/21 12:50

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	**0.26**		0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**84**		6.0	6.0	mg/L			06/20/21 19:28	1
Bicarbonate Alkalinity as CaCO3	**84**		6.0	6.0	mg/L			06/20/21 19:28	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Total Dissolved Solids	**14000**	**D2**	200	200	mg/L			06/17/21 08:42	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246180/2
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			06/23/21 14:33	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/23/21 14:33	1

Lab Sample ID: LCS 550-246180/5
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.11		mg/L		103	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-246180/6
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.2		mg/L		101	90 - 110	4	20

Lab Sample ID: 550-165264-G-17 MS ^50
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	E8 D1 D5	200	211	D1	mg/L		106	80 - 120
Sulfate	1500	M2 D2	1000	2250	D2 M2	mg/L		73	80 - 120

Lab Sample ID: 550-165264-G-17 MSD ^50
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	E8 D1 D5	200	210	D1	mg/L		105	80 - 120	1	20
Sulfate	1500	M2 D2	1000	2200	D2 M2	mg/L		68	80 - 120	2	20

Lab Sample ID: MB 550-246317/2
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			06/24/21 10:51	1
Fluoride	ND	E8	0.40	0.047	mg/L			06/24/21 10:51	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/24/21 10:51	1

Lab Sample ID: LCS 550-246317/5
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.8		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-246317/5
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	3.95		mg/L		99	90 - 110		
Sulfate			20.0	18.8		mg/L		94	90 - 110		

Lab Sample ID: LCSD 550-246317/6
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	19.7		mg/L		99	90 - 110	0	20
Fluoride			4.00	3.94		mg/L		99	90 - 110	0	20
Sulfate			20.0	18.9		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-165908-E-4 MS
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	57		20.0	76.2		mg/L		94	80 - 120		
Fluoride	0.34	E4	4.00	4.34		mg/L		100	80 - 120		
Sulfate	170	M3	20.0	181	M3	mg/L		61	80 - 120		

Lab Sample ID: 550-165908-E-4 MSD
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	57		20.0	76.7		mg/L		96	80 - 120	1	20
Fluoride	0.34	E4	4.00	4.42		mg/L		102	80 - 120	2	20
Sulfate	170	M3	20.0	181	M3	mg/L		63	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-245806/1-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		06/21/21 08:31	06/22/21 16:45	1
Iron	ND	E8	0.10	0.010	mg/L		06/21/21 08:31	06/22/21 16:45	1
Magnesium	ND	E8	2.0	0.044	mg/L		06/21/21 08:31	06/22/21 16:45	1
Potassium	ND	E8	0.50	0.17	mg/L		06/21/21 08:31	06/22/21 16:45	1

Lab Sample ID: MB 550-245806/1-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:06	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-245806/2-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	21.4		mg/L		102	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.5		mg/L		103	85 - 115
Potassium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCS 550-245806/2-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.970		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-245806/3-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	21.3		mg/L		102	85 - 115	0	20
Iron	1.00	1.01		mg/L		101	85 - 115	0	20
Magnesium	21.0	21.4		mg/L		102	85 - 115	1	20
Potassium	20.0	20.3		mg/L		102	85 - 115	1	20

Lab Sample ID: LCSD 550-245806/3-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.953		mg/L		95	85 - 115	2	20

Lab Sample ID: 550-165516-G-1-B MS
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	380	M3	21.0	385	M3	mg/L		26	70 - 130
Iron	3.2		1.00	4.12		mg/L		89	70 - 130
Magnesium	66		21.0	83.9		mg/L		85	70 - 130
Potassium	13		20.0	33.9		mg/L		103	70 - 130

Lab Sample ID: 550-165516-G-1-B MS
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.084		1.00	1.07		mg/L		98	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-165516-G-1-C MSD
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	380	M3	21.0	402	M3	mg/L		107	70 - 130	4	20
Iron	3.2		1.00	4.27		mg/L		103	70 - 130	3	20
Magnesium	66		21.0	88.3		mg/L		106	70 - 130	5	20
Potassium	13		20.0	34.3		mg/L		105	70 - 130	1	20

Lab Sample ID: 550-165516-G-1-C MSD
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.084		1.00	1.09		mg/L		100	70 - 130	2	20

Lab Sample ID: MB 280-540498/1-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 540498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:19	1

Lab Sample ID: LCS 280-540498/2-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Lab Sample ID: 280-149951-H-1-B MS
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.18		1.00	1.22		mg/L		104	70 - 130

Lab Sample ID: 280-149951-H-1-C MSD
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.18		1.00	1.21		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-245767/1-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND	E8	0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:02	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-245767/1-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 14:47	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 14:47	1

Lab Sample ID: LCS 550-245767/4-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.100	0.0965		mg/L		97	85 - 115

Lab Sample ID: LCS 550-245767/4-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.100		mg/L		100	85 - 115
Cobalt	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-245767/5-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.100	0.103		mg/L		103	85 - 115	7	20

Lab Sample ID: LCSD 550-245767/5-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.102		mg/L		102	85 - 115	2	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	3	20

Lab Sample ID: 550-165710-M-1-A MS
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.00056		0.100	0.104		mg/L		103	70 - 130

Lab Sample ID: 550-165710-M-1-A MS
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0019		0.100	0.107		mg/L		105	70 - 130
Cobalt	0.00022	E4	0.100	0.0977		mg/L		97	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-165710-M-1-B MSD
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.00056		0.100	0.102		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-165710-M-1-B MSD
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0019		0.100	0.108		mg/L		106	70 - 130	1	20
Cobalt	0.00022	E4	0.100	0.0978		mg/L		98	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-245770/32
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1

Lab Sample ID: LCS 550-245770/31
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-245770/44
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110	0	20

Lab Sample ID: 590-15273-B-1 DU
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	68		68.3		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	68		68.3		mg/L		0.2	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

QC Sample Results

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-245507/1
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			06/17/21 08:42	1

Lab Sample ID: LCS 550-245507/2
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	902		mg/L		90	90 - 110

Lab Sample ID: LCSD 550-245507/3
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	936		mg/L		94	90 - 110	4	10

Lab Sample ID: 550-165539-A-2 DU
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	8100	D2	7680	D2	mg/L		5	10

HPLC/IC

Analysis Batch: 246180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
MB 550-246180/2	Method Blank	Total/NA	Water	300.0	
LCS 550-246180/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246180/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-165264-G-17 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-165264-G-17 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 246317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
MB 550-246317/2	Method Blank	Total/NA	Water	300.0	
LCS 550-246317/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246317/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-165908-E-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-165908-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 245767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8	
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 245806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7	
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 246025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245806
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245806
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245806
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245806
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245806

QC Association Summary

Metals

Analysis Batch: 246124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245806
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245806
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245806
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245806
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245806

Analysis Batch: 246436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8 LL	245767
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8 LL	245767
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8 LL	245767
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245767
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245767
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245767
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245767

Analysis Batch: 246637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8 LL	245767
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8 LL	245767
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8 LL	245767
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245767
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245767
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245767
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245767

Prep Batch: 540498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7	
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 540891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	540498
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	540498
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	540498
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	540498

General Chemistry

Analysis Batch: 245507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 245507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	SM 2540C	
MB 550-245507/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-245507/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-245507/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-165539-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 245770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	SM 2320B	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	SM 2320B	
MB 550-245770/32	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-245770/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-245770/44	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
590-15273-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Client Sample ID: CH-ABREP-W123R-0621

Lab Sample ID: 550-165540-1

Date Collected: 06/15/21 11:06

Matrix: Water

Date Received: 06/16/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246180	06/23/21 19:46	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246180	06/23/21 20:04	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246317	06/25/21 00:06	JNW	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246025	06/22/21 17:11	MGM	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246124	06/23/21 15:39	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:19	LMT	TAL DEN
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246436	06/25/21 19:31	ARE	TAL PHX
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246637	06/29/21 15:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 19:20	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245507		YET	TAL PHX
					(Start)	06/17/21 08:42		
					(End)	06/18/21 23:44		

Client Sample ID: CH-ABREP-W126R-0621

Lab Sample ID: 550-165540-2

Date Collected: 06/15/21 09:12

Matrix: Water

Date Received: 06/16/21 12:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246180	06/23/21 20:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246180	06/23/21 20:41	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246317	06/25/21 00:33	JNW	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246025	06/22/21 17:15	MGM	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246124	06/23/21 15:43	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:22	LMT	TAL DEN
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246436	06/25/21 19:37	ARE	TAL PHX
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246637	06/29/21 15:26	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 19:28	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245507		YET	TAL PHX
					(Start)	06/17/21 08:42		
					(End)	06/18/21 23:44		

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method Summary

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

165540

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

6/29/2021

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other: **FAP Replacement Wells**

TestAmerica Laboratories, Inc.

Client Contact	
Arizona Public Service	**Natalie Chrisman**
4801 Cholla Lake Rd	**(602) 316-1324**
Joseph City, AZ 86032	**Analysis Turnaround Time**
(928) 587-0319 Phone	☑ CALENDAR DAYS ☑ WORKING DAYS
FAX	TAT if different from Below ______
Project Name: Replacement Well Initial Low Flow	☐ 2 weeks
Site: APS Cholla Power Plant	☐ 1 week
PO #: 300588233	☐ 2 days
	☐ 1 day

Lab Contact: Ken Baker
Date:
Carrier:
COC No: 1 of 1 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 2320B HCO3 (Alkalinity as CaCO3)	SM 2540C (TDS)	EPA 200.7 (B, Ca, Li, Fe, Mg, K) (Totals)	EPA 200.8 (As, Co, Mo) (Totals)	Sample Specific Notes:
CH-ABREP-W123R-0621	6/15/2021	11:06	G	W	2	N	N	X	X	X	X	X	-01 Low Flow
CH-ABREP-W126R-0621	6/15/2021	9:12	G	W	2	N	N	X	X	X	X	X	-02 "

550-165540 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______			1	1	1	4	4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for______ Months

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell

Custody Seals Intact: ☐ Yes ☐ No
Custody Seal No.:
Cooler Temp. (°C): Obs'd:______ Corr'd:______ Therm ID No.:______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by: [signature]	Company: Wood	Date/Time: 6/16/21 / 12:58	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole [illegible]	Company: ETA [illegible]	Date/Time: 6/16/21 1230

1.9°C ICE

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31159.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-165540-1
Address: 4955 Yarrow Street,	Due Date Requested: 6/29/2021	**Analysis Requested**		**Preservation Codes:**
City: Arvada	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
State, Zip: CO, 80002				M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: Replacement Well Initial Low Flow	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-ABREP-W123R-0621 (550-165540-1)	6/15/21	11:06 Arizona		Water			X	1	AZ Sample
CH-ABREP-W126R-0621 (550-165540-2)	6/15/21	09:12 Arizona		Water			X	1	AZ Sample

550-165540 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification Unconfirmed		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: [signature] 06-16-21	Date/Time: 15:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 6/17/21 0955	Company: ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
X Yes Δ No	1337921	4.6 CF0.4 IR12

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165540-1
SDG Number: APS Power plant

Login Number: 165540
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165540-1
SDG Number: APS Power plant

Login Number: 165540
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver
List Creation: 06/17/21 02:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-166242-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: Cholla Replacement Well Aquifer Test

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
7/14/2021 6:15:04 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Job ID: 550-166242-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-166242-1

Comments
No additional comments.

Receipt
The samples were received on 6/30/2021 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

COC does not list 200.7 metals needed.
Logged in 200.7 method, metals will need to be adjusted.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-166242-1	CH-CRT-GSX1R-0621	Water	06/28/21 17:43	06/30/21 13:30	
550-166242-2	CH-CRT2-GSX1R-0621	Water	06/29/21 04:36	06/30/21 13:30	
550-166242-3	CH-CRT3-GSX1R-0621	Water	06/29/21 07:37	06/30/21 13:30	

Detection Summary

Client: Arizona Public Service Company	Job ID: 550-166242-1
Project/Site: Cholla Replacement Well Aquifer Test	SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CRT-GSX1R-0621 — Lab Sample ID: 550-166242-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	16	M3	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CRT2-GSX1R-0621 — Lab Sample ID: 550-166242-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CRT3-GSX1R-0621 — Lab Sample ID: 550-166242-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CRT-GSX1R-0621

Lab Sample ID: 550-166242-1
Date Collected: 06/28/21 17:43
Matrix: Water
Date Received: 06/30/21 13:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 21:33	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	16	M3	0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:03	1

Client Sample ID: CH-CRT2-GSX1R-0621

Lab Sample ID: 550-166242-2
Date Collected: 06/29/21 04:36
Matrix: Water
Date Received: 06/30/21 13:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 21:51	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:07	1

Client Sample ID: CH-CRT3-GSX1R-0621

Lab Sample ID: 550-166242-3
Date Collected: 06/29/21 07:37
Matrix: Water
Date Received: 06/30/21 13:30

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 22:10	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:11	1

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246953/1030
Matrix: Water
Analysis Batch: 246953

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			07/01/21 19:42	1

Lab Sample ID: LCS 550-246953/31
Matrix: Water
Analysis Batch: 246953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.14		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-246953/32
Matrix: Water
Analysis Batch: 246953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.19		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-166130-X-1 MS
Matrix: Water
Analysis Batch: 246953

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	0.61		4.00	4.57		mg/L		99	80 - 120		

Lab Sample ID: 550-166130-X-1 MSD
Matrix: Water
Analysis Batch: 246953

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.61		4.00	4.51		mg/L		97	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-247147/1-A
Matrix: Water
Analysis Batch: 247366

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 247147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 21:44	1

Lab Sample ID: LCS 550-247147/2-A
Matrix: Water
Analysis Batch: 247366

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 247147

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Boron			1.00	1.00		mg/L		100	85 - 115		

Client: Arizona Public Service Company | Job ID: 550-166242-1
Project/Site: Cholla Replacement Well Aquifer Test | SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-247147/3-A | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 247366 | **Prep Batch: 247147**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	0.994		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-166242-1 MS | **Client Sample ID: CH-CRT-GSX1R-0621**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 247366 | **Prep Batch: 247147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	16	M3	1.00	16.1	M3	mg/L		58	70 - 130

Lab Sample ID: 550-166242-1 MSD | **Client Sample ID: CH-CRT-GSX1R-0621**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 247366 | **Prep Batch: 247147**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	16	M3	1.00	16.3	M3	mg/L		75	70 - 130	1	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 246953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	300.0	
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	300.0	
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	300.0	
MB 550-246953/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-246953/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246953/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-166130-X-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-166130-X-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 247147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	200.7	
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	200.7	
MB 550-247147/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-247147/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-247147/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-166242-1 MS	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	
550-166242-1 MSD	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	

Analysis Batch: 247366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
MB 550-247147/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	247147
LCS 550-247147/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	247147
LCSD 550-247147/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-1 MS	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-1 MSD	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CRT-GSX1R-0621

Lab Sample ID: 550-166242-1

Date Collected: 06/28/21 17:43
Matrix: Water
Date Received: 06/30/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 21:33	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:03	MGM	TAL PHX

Client Sample ID: CH-CRT2-GSX1R-0621

Lab Sample ID: 550-166242-2

Date Collected: 06/29/21 04:36
Matrix: Water
Date Received: 06/30/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 21:51	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:07	MGM	TAL PHX

Client Sample ID: CH-CRT3-GSX1R-0621

Lab Sample ID: 550-166242-3

Date Collected: 06/29/21 07:37
Matrix: Water
Date Received: 06/30/21 13:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 22:10	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:11	MGM	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Chain of Custody Record

536486 eurofins Environment Testing TestAmerica

166242

Address:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Natalie Chrisman	Site Contact:	Date:	COC No:
Company Name: Arizona Public Services	Tel/Email: (602) 316-1324	Lab Contact:	Carrier:	___ of ___ COCs
Address: 4401 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: Joseph City, AZ 86032	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (928) 587-0316	TAT if different from Below ______			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Cholla Replacement Well Aquifer Test	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
P O # 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (F)	EPA 200.7 (B) Totals		Sample Specific Notes:
CH-CRT-GSX1R-0621	06/28/21	11:43	G	W	2			X	X	-01	CRT (Constant Rate Test); 1st Sample
CH-CRT2-GSX1R-0621	06/29/21	04:36	"	"	2			X	X	-02	CRT; 2nd Sample
CH-CRT3-GSX1R-0621	06/29/21	07:37	"	"	2			X	X	-03	CRT; End Sample
			"	"							

550-166242 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ | Therm ID No.: ______

Relinquished by: Isaac Torres	Company: Wood	Date/Time: 06/30/21 13:33	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [illegible signature]	Company: EM PHX	Date/Time: 6/30/21 1330

2.8°C ICE CDO

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-166242-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 166242
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-168312-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: CCR Replacement Well Sampling

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
8/28/2021 7:41:48 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-168312-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-168312-1

Comments
No additional comments.

Receipt
The samples were received on 8/4/2021 10:54 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-GSX1R-0821 (550-168312-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: An incorrect volume of spiking solution was inadvertently added to the continuing calibration verification (CCV) samples associated with 550-251294 for Total Organic Carbon (TOC). Percent recoveries were based on the amount spiked and fell within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-168312-1	CH-CCR-W123R-0821	Water	08/03/21 12:42	08/04/21 10:54
550-168312-2	CH-CCR-W123R-0821	Water	08/03/21 12:42	08/04/21 10:54
550-168312-3	CH-CCR-W126R-0821	Water	08/03/21 10:02	08/04/21 10:54
550-168312-4	CH-CCR-W126R-0821	Water	08/03/21 10:02	08/04/21 10:54
550-168312-5	CH-CCR-GSX1R-0821	Water	08/03/21 11:45	08/04/21 10:54

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	39		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00017	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0058		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000077	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0010		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0036		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.24		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0010		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00022		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	1.3		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.042	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0061		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0034		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.66		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	44		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.26		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.51		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00025	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0037		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000064	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.024		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.31		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W126R-0821 (Continued) — Lab Sample ID: 550-168312-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.000083	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.43		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-0821 — Lab Sample ID: 550-168312-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.14		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.53		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0039		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GSX1R-0821 — Lab Sample ID: 550-168312-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.8	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.67		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00016	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0057		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00011		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00060	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0020		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.61		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9700	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-1
Matrix: Water

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5400**	**D2**	400	100	mg/L			08/09/21 22:24	200
Fluoride	**5.2**	**D1**	0.80	0.095	mg/L			08/09/21 22:06	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 20:36	5
Sulfate	**3500**	**D2**	400	85	mg/L			08/09/21 22:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:02	1
Lithium	**0.52**		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:39	1
Boron	**39**		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:31	1
Calcium	**730**		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:51	1
Iron	**0.040**	**E4**	0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:02	1
Manganese	**2.4**		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:02	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00017**	**E4**	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:22	1
Arsenic	**0.0058**		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:22	1
Barium	**0.012**		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:22	1
Cadmium	**0.000077**	**E4**	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:22	1
Chromium	**0.0010**		0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:22	1
Cobalt	**0.0036**		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:22	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:22	1
Molybdenum	**0.24**		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:22	1
Selenium	**0.0010**		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:22	1
Thallium	**0.00022**		0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:22	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**1.3**		0.050	0.039	mg/L			08/09/21 12:11	1
Total Dissolved Solids	**12000**	**D2**	200	200	mg/L			08/05/21 08:58	1
pH	**7.8**	**H5**	1.7	1.7	SU			08/05/21 18:50	1
Temperature	**9.7**	**H5**	0.1	0.1	Degrees C			08/05/21 18:50	1

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-2
Matrix: Water

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.042**	**E4**	0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:33	1
Manganese	**2.6**		0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:33	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0061**		0.00050	0.00025	mg/L		08/06/21 09:06	08/20/21 20:52	1
Cobalt	**0.0034**		0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 23:06	1

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-2

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Matrix: Water

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L			08/26/21 23:02	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			08/26/21 23:02	1
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L			08/26/21 23:02	1

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3

Date Collected: 08/03/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	400	100	mg/L			08/09/21 21:47	200
Fluoride	4.6	D1	0.80	0.095	mg/L			08/09/21 21:29	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 21:04	5
Sulfate	4000	D2	400	85	mg/L			08/09/21 21:47	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:04	1
Lithium	0.66		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:43	1
Boron	44		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:33	1
Calcium	730		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:53	1
Iron	0.26		0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:04	1
Manganese	0.51		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:04	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00025	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:24	1
Arsenic	0.0037		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:24	1
Barium	0.011		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:24	1
Cadmium	0.000064	E4	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:24	1
Chromium	0.024		0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:24	1
Cobalt	0.0042		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:24	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:24	1
Molybdenum	0.31		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:24	1
Selenium	0.0015		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:24	1
Thallium	0.000083	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:24	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.43		0.050	0.039	mg/L			08/09/21 12:42	1
Total Dissolved Solids	14000	D2	200	200	mg/L			08/05/21 08:58	1
pH	7.6	H5	1.7	1.7	SU			08/05/21 18:50	1
Temperature	8.2	H5	0.1	0.1	Degrees C			08/05/21 18:50	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-4
Date Collected: 08/03/21 10:02
Matrix: Water
Date Received: 08/04/21 10:54

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.14		0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:35	1
Manganese	0.53		0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:35	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0039		0.00050	0.00025	mg/L		08/06/21 09:06	08/23/21 20:49	1
Cobalt	0.0042		0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 23:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L			08/26/21 23:13	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			08/26/21 23:13	1
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L			08/26/21 23:13	1

Client Sample ID: CH-CCR-GSX1R-0821

Lab Sample ID: 550-168312-5
Date Collected: 08/03/21 11:45
Matrix: Water
Date Received: 08/04/21 10:54

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400	D2	400	100	mg/L			08/10/21 06:22	200
Fluoride	2.8	D1	0.80	0.095	mg/L			08/10/21 06:04	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 21:32	5
Sulfate	3000	D2	400	85	mg/L			08/10/21 06:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:06	1
Lithium	0.52		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:46	1
Boron	7.5		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:38	1
Calcium	750		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:56	1
Iron	0.058	E4	0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:06	1
Magnesium	240		2.0	0.044	mg/L		08/06/21 05:58	08/11/21 19:56	1
Manganese	0.67		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:06	1
Potassium	18		0.50	0.17	mg/L		08/06/21 05:58	08/11/21 19:56	1
Sodium	3100	D2	2.5	0.15	mg/L		08/06/21 05:58	08/13/21 13:47	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00016	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:26	1
Arsenic	0.0057		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:26	1
Barium	0.012		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:26	1
Cadmium	0.00011		0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:26	1
Chromium	0.00060	E4	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:26	1
Cobalt	0.0020		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:26	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:26	1
Molybdenum	0.61		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:26	1
Selenium	0.0015		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:26	1
Thallium	ND	E8	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:26	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-0821

Date Collected: 08/03/21 11:45
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168312-5
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.13**		0.050	0.039	mg/L			08/09/21 13:06	1
Alkalinity as CaCO3	**75**		6.0	6.0	mg/L			08/15/21 14:30	1
Bicarbonate Alkalinity as CaCO3	**75**		6.0	6.0	mg/L			08/15/21 14:30	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Total Dissolved Solids	**9700**	**D2**	200	200	mg/L			08/05/21 08:58	1
pH	**7.6**	**H5**	1.7	1.7	SU			08/05/21 18:50	1
Temperature	**8.8**	**H5**	0.1	0.1	Degrees C			08/05/21 18:50	1
Total Organic Carbon	**1.7**		0.50	0.26	mg/L			08/23/21 20:44	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-249963/2
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			08/06/21 11:44	1

Lab Sample ID: LCS 550-249963/5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	7.78		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-249963/6
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	7.79		mg/L		97	90 - 110	0	20

Lab Sample ID: 550-168303-A-2 MS ^5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.2	D1 M1	40.0	53.6	D1 M1	mg/L		124	80 - 120

Lab Sample ID: 550-168303-A-2 MSD ^5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	4.2	D1 M1	40.0	49.9	D1	mg/L		114	80 - 120	7	20

Lab Sample ID: MB 550-250142/2
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/09/21 12:29	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/09/21 12:29	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/09/21 12:29	1

Lab Sample ID: LCS 550-250142/5
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.06		mg/L		102	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-250142/6 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.06		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.3		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-168017-D-1 MS | **Client Sample ID: Matrix Spike**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	110	E2	20.0	130	E2 M3	mg/L		96	80 - 120
Fluoride	0.38	E4 M1	4.00	6.17	M1	mg/L		145	80 - 120
Sulfate	39	M1	20.0	67.0	M1	mg/L		142	80 - 120

Lab Sample ID: 550-168017-D-1 MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110	E2	20.0	128	E2 M3	mg/L		87	80 - 120	1	20
Fluoride	0.38	E4 M1	4.00	5.85	M1	mg/L		137	80 - 120	5	20
Sulfate	39	M1	20.0	64.8	M1	mg/L		131	80 - 120	3	20

Lab Sample ID: MB 550-250143/1029 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250143

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/09/21 23:01	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/09/21 23:01	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/09/21 23:01	1

Lab Sample ID: LCS 550-250143/30 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250143

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.3		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-250143/31 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250143

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.3		mg/L		102	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-168321-A-5 MS ^2
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250143

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1200	E2 M3 D1	40.0	1180	D1 E2 M3	mg/L		35	80 - 120
Fluoride	0.52	E4 D1	8.00	8.82	D1	mg/L		104	80 - 120
Sulfate	1200	E2 M3 D1	40.0	1210	D1 E2 M3	mg/L		41	80 - 120

Lab Sample ID: 550-168321-A-5 MSD ^2
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250143

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1200	E2 M3 D1	40.0	1180	D1 E2 M3	mg/L		29	80 - 120	0	20
Fluoride	0.52	E4 D1	8.00	8.72	D1	mg/L		103	80 - 120	1	20
Sulfate	1200	E2 M3 D1	40.0	1210	D1 E2 M3	mg/L		32	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-249879/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250228
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/11/21 08:32	1
Iron	ND	E8	0.10	0.010	mg/L		08/06/21 05:58	08/11/21 08:32	1
Manganese	ND	E8	0.010	0.00019	mg/L		08/06/21 05:58	08/11/21 08:32	1

Lab Sample ID: MB 550-249879/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250358
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:28	1
Magnesium	ND	E8	2.0	0.044	mg/L		08/06/21 05:58	08/11/21 19:28	1
Potassium	ND	E8	0.50	0.17	mg/L		08/06/21 05:58	08/11/21 19:28	1

Lab Sample ID: MB 550-249879/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250429
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:12	1

Lab Sample ID: MB 550-249879/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 250513
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.0318	E4	0.50	0.031	mg/L		08/06/21 05:58	08/13/21 13:33	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.965		mg/L		96	85 - 115
Iron	1.00	0.964		mg/L		96	85 - 115
Manganese	1.00	0.964		mg/L		96	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	20.0		mg/L		95	85 - 115
Magnesium	21.0	20.3		mg/L		97	85 - 115
Potassium	20.0	19.4		mg/L		97	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	19.8		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.968		mg/L		97	85 - 115	0	20
Iron	1.00	0.970		mg/L		97	85 - 115	1	20
Manganese	1.00	0.948		mg/L		95	85 - 115	2	20

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	20.0		mg/L		95	85 - 115	0	20
Magnesium	21.0	20.3		mg/L		97	85 - 115	0	20
Potassium	20.0	19.3		mg/L		97	85 - 115	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	1.02		mg/L		102	85 - 115	2	20

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	19.2		mg/L		96	85 - 115	3	20

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00052	E4	1.00	0.971		mg/L		97	70 - 130
Iron	0.65		1.00	1.53		mg/L		87	70 - 130
Manganese	3.9	M2	1.00	4.61	M2	mg/L		69	70 - 130

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	120	M3	21.0	703	M3	mg/L		2787	70 - 130
Magnesium	14	M1	21.0	104	M1	mg/L		431	70 - 130
Potassium	1.3	M1	20.0	29.4	M1	mg/L		141	70 - 130

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.34		1.00	1.43		mg/L		108	70 - 130

Lab Sample ID: 550-168321-C-5-A MS ^2
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	1600	M3	20.0	1530	M3	mg/L		-161	70 - 130

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00052	E4	1.00	1.05		mg/L		105	70 - 130	8	20
Iron	0.65		1.00	1.64		mg/L		98	70 - 130	7	20
Manganese	3.9	M2	1.00	4.62		mg/L		70	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	120	M3	21.0	726	M3	mg/L		2896	70 - 130	3	20
Magnesium	14	M1	21.0	109	M1	mg/L		455	70 - 130	5	20
Potassium	1.3	M1	20.0	31.1	M1	mg/L		149	70 - 130	6	20

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.34		1.00	1.41		mg/L		107	70 - 130	1	20

Lab Sample ID: 550-168321-C-5-B MSD ^2
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	1600	M3	20.0	1540	M3	mg/L		-109	70 - 130	1	20

Lab Sample ID: MB 550-249882/1-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249882

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:19	1
Manganese	ND	E8	0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:19	1

Lab Sample ID: LCS 550-249882/2-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249882

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.970		mg/L		97	85 - 115
Manganese	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-249882/3-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249882

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.00		mg/L		100	85 - 115	3	20
Manganese	1.00	1.02		mg/L		102	85 - 115	1	20

Lab Sample ID: MB 280-545884/1-A
Matrix: Water
Analysis Batch: 546124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545884

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 10:30	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-545884/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546124 — **Prep Batch: 545884**

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium			1.00	1.04		mg/L		104	90 - 112		

Lab Sample ID: 280-151618-G-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546084 — **Prep Batch: 545884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130		

Lab Sample ID: 280-151618-G-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546084 — **Prep Batch: 545884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130	0	20

Lab Sample ID: 280-151647-A-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546084 — **Prep Batch: 545884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.010	E4	1.00	1.21		mg/L		120	70 - 130		

Lab Sample ID: 280-151647-A-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 546084 — **Prep Batch: 545884**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.010	E4	1.00	1.20		mg/L		119	70 - 130	1	20

Lab Sample ID: 550-168321-B-6-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 250359 — **Prep Batch: 249882**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron	0.62		1.00	1.66		mg/L		104	70 - 130		
Manganese	4.0		1.00	4.83		mg/L		84	70 - 130		

Lab Sample ID: 550-168321-B-6-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Dissolved**
Analysis Batch: 250359 — **Prep Batch: 249882**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.62		1.00	1.62		mg/L		100	70 - 130	2	20
Manganese	4.0		1.00	4.74		mg/L		75	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-249890/1-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249890

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000790	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Arsenic	0.000341	E4	0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:07	1
Barium	ND	E8	0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:07	1
Chromium	ND	E8	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:07	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:07	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:07	1
Selenium	ND	E8	0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:07	1
Thallium	0.0000250	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:07	1

Lab Sample ID: LCS 550-249890/2-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.105		mg/L		105	85 - 115
Arsenic	0.100	0.103		mg/L		103	85 - 115
Barium	0.100	0.113		mg/L		113	85 - 115
Cadmium	0.100	0.107		mg/L		107	85 - 115
Chromium	0.100	0.109		mg/L		109	85 - 115
Cobalt	0.100	0.114		mg/L		114	85 - 115
Lead	0.100	0.108		mg/L		108	85 - 115
Molybdenum	0.100	0.112		mg/L		112	85 - 115
Selenium	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.108		mg/L		108	85 - 115

Lab Sample ID: LCSD 550-249890/3-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.104		mg/L		104	85 - 115	1	20
Arsenic	0.100	0.101		mg/L		101	85 - 115	3	20
Barium	0.100	0.111		mg/L		111	85 - 115	2	20
Cadmium	0.100	0.106		mg/L		106	85 - 115	1	20
Chromium	0.100	0.105		mg/L		105	85 - 115	4	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	5	20
Lead	0.100	0.108		mg/L		108	85 - 115	0	20
Molybdenum	0.100	0.110		mg/L		110	85 - 115	2	20
Selenium	0.100	0.0969		mg/L		97	85 - 115	3	20
Thallium	0.100	0.110		mg/L		110	85 - 115	2	20

Lab Sample ID: 550-168310-B-1-B MS
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000088	E4	0.100	0.103		mg/L		103	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-168310-B-1-B MS
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130
Barium	0.094		0.100	0.213		mg/L		119	70 - 130
Cadmium	0.000078	E4	0.100	0.0984		mg/L		98	70 - 130
Chromium	0.00048	E4	0.100	0.102		mg/L		102	70 - 130
Cobalt	ND	E8	0.100	0.105		mg/L		105	70 - 130
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130
Molybdenum	0.0042		0.100	0.113		mg/L		109	70 - 130
Selenium	ND	E8	0.100	0.0976		mg/L		98	70 - 130
Thallium	0.000074	E4	0.100	0.0972		mg/L		97	70 - 130

Lab Sample ID: 550-168310-B-1-C MSD
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000088	E4	0.100	0.102		mg/L		102	70 - 130	2	20
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130	0	20
Barium	0.094		0.100	0.209		mg/L		116	70 - 130	2	20
Cadmium	0.000078	E4	0.100	0.0968		mg/L		97	70 - 130	2	20
Chromium	0.00048	E4	0.100	0.101		mg/L		100	70 - 130	2	20
Cobalt	ND	E8	0.100	0.104		mg/L		104	70 - 130	1	20
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130	0	20
Molybdenum	0.0042		0.100	0.110		mg/L		105	70 - 130	3	20
Selenium	ND	E8	0.100	0.0982		mg/L		98	70 - 130	1	20
Thallium	0.000074	E4	0.100	0.0994		mg/L		99	70 - 130	2	20

Lab Sample ID: MB 550-249891/1-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 22:53	1

Lab Sample ID: MB 550-249891/1-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		08/06/21 09:06	08/20/21 20:39	1

Lab Sample ID: LCS 550-249891/2-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.109		mg/L		109	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-249891/2-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			0.100	0.105		mg/L		105	85 - 115		

Lab Sample ID: LCSD 550-249891/3-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt			0.100	0.106		mg/L		106	85 - 115	3	20

Lab Sample ID: LCSD 550-249891/3-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			0.100	0.102		mg/L		102	85 - 115	2	20

Lab Sample ID: 550-168321-E-8-B MS
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt	0.013		0.100	0.114		mg/L		101	70 - 130		

Lab Sample ID: 550-168321-E-8-B MS
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.0032		0.100	0.114		mg/L		111	70 - 130		

Lab Sample ID: 550-168321-E-8-C MSD
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.013		0.100	0.114		mg/L		101	70 - 130	0	20

Lab Sample ID: 550-168321-E-8-C MSD
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0032		0.100	0.116		mg/L		112	70 - 130	1	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-249943/1-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:14	1

Lab Sample ID: LCS 550-249943/2-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00439		mg/L		88	85 - 115

Lab Sample ID: LCSD 550-249943/3-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00460		mg/L		92	85 - 115	5	20

Lab Sample ID: 550-168118-B-1-C MS
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00460		mg/L		92	70 - 130

Lab Sample ID: 550-168118-B-1-D MSD
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00456		mg/L		91	70 - 130	1	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-250078/21
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			08/09/21 11:23	1

Lab Sample ID: MB 550-250078/60
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			08/09/21 12:21	1

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-250078/22
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	1.04		mg/L		104	90 - 110		

Lab Sample ID: LCS 550-250078/61
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	0.964		mg/L		96	90 - 110		

Lab Sample ID: LCSD 550-250078/23
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	1.03		mg/L		103	90 - 110	1	20

Lab Sample ID: LCSD 550-250078/62
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	0.973		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-168064-C-1 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.62		1.00	1.62		mg/L		100	90 - 110		

Lab Sample ID: 550-168064-C-1 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.62		1.00	1.61		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-168129-C-1 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.40		1.00	1.40		mg/L		100	90 - 110		

Lab Sample ID: 550-168129-C-1 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.40		1.00	1.39		mg/L		99	90 - 110	1	20

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-168321-B-5 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	0.996		mg/L		100	90 - 110

Lab Sample ID: 550-168321-B-5 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	0.988		mg/L		99	90 - 110	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-250568/7
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1

Lab Sample ID: LCS 550-250568/6
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-250568/20
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-168830-A-2 DU
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	360		345		mg/L		3	20
Bicarbonate Alkalinity as CaCO3	360		345		mg/L		3	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-249706/1
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			08/05/21 08:58	1

Lab Sample ID: LCS 550-249706/2
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	960		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-249706/3
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10

Lab Sample ID: 550-168267-C-4 DU
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7000	D2	7100	D2	mg/L		1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-249873/25
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.3	98.5 - 101.5

Lab Sample ID: LCSSRM 550-249873/37
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: 550-168310-A-2 DU
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	H5	7.9	H5	SU		0	5
Temperature	10.5	H5	10.5	H5	Degrees C		0	

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-251294/5
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			08/23/21 18:59	1

Lab Sample ID: LCS 550-251294/6
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.8		mg/L		109	90 - 110
Total Organic Carbon - Duplicates	20.0	21.8		mg/L		109	90 - 110
Total Organic Carbon - Quad	20.0	21.8		mg/L		109	90 - 110

Lab Sample ID: LCSD 550-251294/7
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	21.1		mg/L		106	90 - 110	3	20
Total Organic Carbon - Duplicates	20.0	21.1		mg/L		106	90 - 110	3	20
Total Organic Carbon - Quad	20.0	21.1		mg/L		106	90 - 110	3	20

Lab Sample ID: 550-168582-A-12 MSD
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20
Total Organic Carbon - Duplicates	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20
Total Organic Carbon - Quad	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20

Lab Sample ID: 550-168582-B-12 MS
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110
Total Organic Carbon - Duplicates	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110
Total Organic Carbon - Quad	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-251751/5
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-251751/5
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1

Lab Sample ID: LCS 550-251751/6
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	19.8		mg/L		99	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.8		mg/L		99	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-251751/7
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.6		mg/L		98	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-168321-A-6 MS
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.75		20.0	19.9		mg/L		96	90 - 110
Dissolved Organic Carbon - Duplicate	0.75		20.0	19.9		mg/L		96	90 - 110
Dissolved Organic Carbon - Quad	0.75		20.0	19.9		mg/L		96	90 - 110

Lab Sample ID: 550-168321-A-6 MSD
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.75		20.0	19.4		mg/L		93	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	0.75		20.0	19.4		mg/L		93	90 - 110	3	20
Dissolved Organic Carbon - Quad	0.75		20.0	19.4		mg/L		93	90 - 110	3	20

HPLC/IC

Analysis Batch: 249963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
MB 550-249963/2	Method Blank	Total/NA	Water	300.0	
LCS 550-249963/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-249963/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168303-A-2 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-168303-A-2 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 250142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
MB 550-250142/2	Method Blank	Total/NA	Water	300.0	
LCS 550-250142/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250142/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168017-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-168017-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 250143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
MB 550-250143/1029	Method Blank	Total/NA	Water	300.0	
LCS 550-250143/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250143/31	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168321-A-5 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-168321-A-5 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 249879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7	
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7	
550-168321-C-5-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-168321-C-5-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 249882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.7	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.7	
MB 550-249882/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 249882 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-249882/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-249882/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-168321-B-6-A MS	Matrix Spike	Dissolved	Water	200.7	
550-168321-B-6-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Prep Batch: 249890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.8	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.8	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.8	
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-168310-B-1-B MS	Matrix Spike	Total/NA	Water	200.8	
550-168310-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 249891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8	
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8	
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

Prep Batch: 249943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	245.1	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	245.1	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	245.1	
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 249965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	245.1	249943
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	245.1	249943
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	245.1	249943
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	249943
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	249943
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	249943
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	249943
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	249943

Analysis Batch: 250228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879

Metals (Continued)

Analysis Batch: 250228 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.7 Rev 4.4	249882
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.7 Rev 4.4	249882
MB 550-249882/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249882
LCS 550-249882/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249882
LCSD 550-249882/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249882
550-168321-B-6-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	249882
550-168321-B-6-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	249882

Analysis Batch: 250429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Metals

Analysis Batch: 251013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.8 LL	249890
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.8 LL	249890
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.8 LL	249890
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8 LL	249890
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249890
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249890
550-168310-B-1-B MS	Matrix Spike	Total/NA	Water	200.8 LL	249890
550-168310-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	249890

Analysis Batch: 251014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8 LL	249891
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8 LL	249891
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8 LL	249891
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249891
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249891
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8 LL	249891
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	249891

Analysis Batch: 251184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8 LL	249891
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8 LL	249891
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249891
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249891
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8 LL	249891
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	249891

Analysis Batch: 251280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8 LL	249891

Prep Batch: 545884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7	
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 546084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	545884
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	545884
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Metals (Continued)

Analysis Batch: 546084 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884

Analysis Batch: 546124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	545884
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	545884

General Chemistry

Analysis Batch: 249706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	SM 2540C	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	SM 2540C	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 2540C	
MB 550-249706/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-249706/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-249706/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-168267-C-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 249873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	SM 4500 H+ B	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	SM 4500 H+ B	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-168310-A-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 250078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	350.1	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	350.1	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	350.1	
MB 550-250078/21	Method Blank	Total/NA	Water	350.1	
MB 550-250078/60	Method Blank	Total/NA	Water	350.1	
LCS 550-250078/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-250078/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-250078/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-250078/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-168064-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-168064-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-168129-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-168129-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-168321-B-5 MS	Matrix Spike	Total/NA	Water	350.1	
550-168321-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 250568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 2320B	
MB 550-250568/7	Method Blank	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 250568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-250568/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-250568/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-168830-A-2 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 251294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 5310B	
MB 550-251294/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-251294/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-251294/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-168582-A-12 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-168582-B-12 MS	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 251751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	SM 5310B	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	SM 5310B	
MB 550-251751/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-251751/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-251751/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-168321-A-6 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-168321-A-6 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-1

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 22:06	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 22:24	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 20:36	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:02	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:51	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:39	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:22	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:45	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 12:11	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-2

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			249882	08/06/21 06:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	250359	08/11/21 20:33	MGM	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251014	08/19/21 23:06	ARE	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251184	08/20/21 20:52	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	251751	08/26/21 23:02	MEG	TAL PHX

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3

Date Collected: 08/03/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 21:29	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 21:47	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 21:04	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:04	MGM	TAL PHX

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3

Date Collected: 08/03/21 10:02

Matrix: Water

Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:53	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:33	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:43	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:24	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:47	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 12:42	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-4

Date Collected: 08/03/21 10:02

Matrix: Water

Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			249882	08/06/21 06:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	250359	08/11/21 20:35	MGM	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251014	08/19/21 23:08	ARE	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251280	08/23/21 20:49	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	251751	08/26/21 23:13	MEG	TAL PHX

Client Sample ID: CH-CCR-GSX1R-0821

Lab Sample ID: 550-168312-5

Date Collected: 08/03/21 11:45

Matrix: Water

Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250143	08/10/21 06:04	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250143	08/10/21 06:22	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 21:32	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:06	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:56	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:38	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company | Job ID: 550-168312-1
Project/Site: CCR Replacement Well Sampling | SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-0821 | **Lab Sample ID: 550-168312-5**
Date Collected: 08/03/21 11:45 | **Matrix: Water**
Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	250513	08/13/21 13:47	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:46	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:26	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:53	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 13:06	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	250568	08/15/21 14:30	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX
Total/NA	Analysis	SM 5310B		1	251294	08/23/21 20:44	DGS	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Job ID: 550-168312-1
Project/Site: CCR Replacement Well Sampling
SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	08-01-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

168312

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Replacement Well Sampling	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Me, K, Mg, Na)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
CH-CCR-W123R-0821	-01 +02	8/3/21	12:42	G	W	8		N	X	X	X	X	X	X	X	X	X		X	X			Low flow
CH-CCR-W126R-0821	-03 +04	"	10:02	G	W	8		N	X	X	X	X	X	X	X	X	X		X	X			"
CH-CCR-GSX1R-0821	-05	"	11:45	G	W	7		N	X			X		X	X	X		X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	2	3	2	4	1	

550-168312 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

2.4 °C ICE

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by: [signature]	Company: Wood	Date/Time: 8/4/21 10:54	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: ETA PHX	Date/Time: 8/4/21 1054

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

8/28/2021

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)

Client Contact:	Shipping/Receiving
Company:	TestAmerica Laboratories, Inc.
Address:	4955 Yarrow Street,
City:	Arvada
State, Zip:	CO, 80002
Phone:	303-736-0100(Tel) 303-431-7171(Fax)
Email:	
Project Name:	CCR Replacement Well Sampling
Site:	Arizona Public Service
Sampler:	
Phone:	
Due Date Requested:	8/17/2021
TAT Requested (days):	
PO #:	
WO #:	
Project #:	55009651
SSOW#:	
Lab PM:	Baker, Ken
E-Mail:	Ken.Baker@Eurofinset.com
Carrier Tracking No(s):	
State of Origin:	Arizona
Accreditations Required (See note):	State Program - Arizona
COC No:	550-31552.1
Page:	Page 1 of 1
Job #:	550-168312-1

Analysis Requested

550-168312 Chain of Custody

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W123R-0821 (550-168312-1)	8/3/21	12:42 Arizona		Water			X	1	AZ Sample
CH-CCR-W126R-0821 (550-168312-3)	8/3/21	10:02 Arizona		Water			X	1	AZ Sample
CH-CCR-GSX1R-0821 (550-168312-5)	8/3/21	11:45 Arizona		Water			X	1	AZ Sample

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Enra 08-04-21	Date/Time: 14:40	Company: TA-PHX	Received by: Fedex	Date/Time: / Company:
Relinquished by: FEDEX	Date/Time:	Company:	Received by: [signature]	Date/Time: 8/5/21 920 Company: ETA/DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time: / Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1746023		Cooler Temperature(s) °C and Other Remarks: 0.3 IR 12 CF +0.6	

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168312-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 168312
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168312-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 168312
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 08/05/21 02:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 02, 2021
Sample Received: August 04, 2021
Analysis Completed: August 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-CR1R-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/17/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

August 2, 2021 — Sample Date
10:02 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________
☐ Quarterly — Date Q2 collected: ______________
☐ Composite of four quarterly samples — Date Q3 collected: ______________
Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67101
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-CR1R-0821
Authorized Signature:
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 02, 2021
Sample Received: August 04, 2021
Analysis Completed: August 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-DUP01-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/17/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

August 2, 2021 | 10:02 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person ____________

Owner/Contact Fax Number ____________

Owner/Contact Phone Number ____________

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67102
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-DUP01-0821
Authorized Signature:
Date Public Water System Notified:

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (SEDI)

Radiation Safety Engineering, Inc.

3245 North Washington Street
Chandler, Arizona
85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-CR1R-0821	8/2/21	10:02	GW						X	X	X						67101
CH-CCR-DVP01-0821	"	"	"						X	X	X						67102

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments
Method HPGe
PO #: 300588231

Relinquished By: [signature]	Company: Wood	Date/time: 8-4-21	Received By: Pat Flannery	Company: RSE	Date/time: 8/4/21 11:41
Relinquished By:	Company:	Date/time: 11:41	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123R-0821	< 0.7	< 0.6	< 0.7

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021
Jeremy Russell, BSE — Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

August 3, 2021 — Sample Date

12:42 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67111

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W123R-0821

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126R-0821	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

August 3, 2021 | 10:02 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	0.4 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67112

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W126R20821

Authorized Signature: [signature]

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-GSX1R-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

August 3, 2021 | 11:45 (24 hour clock) | ______________

Sample Date | Sample Time | Owner/Contact Person

______________ | ______________

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67113

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-GSX1R-0821

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street, Chandler, Arizona 85225

Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (FAP)

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-W123R-0821	8/3/21	12:42	GW						X	X	X						67111
CH-CCR-W126R-0821	"	10:02	GW						X	X	X						67112
CH-CCR-GSX1R-0821	"	11:45	GW						X	X	X						67113

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments

Method HPGe

PO #: 300588231

Relinquished By: [signature]	Company: Wood	Date/time: 8-4-21	Received By: Pat Flannery	Company: RSE	Date/time: 8/4/21 11:41
Relinquished By:	Company:	Date/time: 11:41	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Appendix B

2021 Analytical Laboratory Reports

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-156601-1
Laboratory Sample Delivery Group: 1420182040.6048.06
Client Project/Site: APS - Cholla CCR

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
1/27/2021 7:53:40 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Definitions/Glossary

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Job ID: 550-156601-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-156601-1

Comments
No additional comments.

Receipt
The samples were received on 1/18/2021 3:55 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-156601-1	CH-CCR-M59-011321	Water	01/13/21 10:34	01/18/21 15:55	
550-156601-2	CH-CCR-M61-011321	Water	01/13/21 11:52	01/18/21 15:55	
550-156601-3	CH-CCR-M60-011321	Water	01/13/21 13:00	01/18/21 15:55	
550-156601-4	CH-CCR-M57A-011321	Water	01/13/21 14:35	01/18/21 15:55	

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Client Sample ID: CH-CCR-M59-011321 — Lab Sample ID: 550-156601-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.051		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M61-011321 — Lab Sample ID: 550-156601-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.045		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M60-011321 — Lab Sample ID: 550-156601-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.042		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M57A-011321 — Lab Sample ID: 550-156601-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.013		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Client Sample ID: CH-CCR-M59-011321
Lab Sample ID: 550-156601-1
Date Collected: 01/13/21 10:34
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.051		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:21	1

Client Sample ID: CH-CCR-M61-011321
Lab Sample ID: 550-156601-2
Date Collected: 01/13/21 11:52
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.045		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:24	1

Client Sample ID: CH-CCR-M60-011321
Lab Sample ID: 550-156601-3
Date Collected: 01/13/21 13:00
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.042		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:28	1

Client Sample ID: CH-CCR-M57A-011321
Lab Sample ID: 550-156601-4
Date Collected: 01/13/21 14:35
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.013		0.0010	0.00043	mg/L		01/20/21 11:53	01/22/21 13:31	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 280-524297/1-A
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524297

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 13:58	1

Lab Sample ID: LCS 280-524297/2-A
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.09		mg/L		109	90 - 112

Lab Sample ID: 280-144787-A-1-E MS
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	ND	E8	1.00	1.15		mg/L		115	70 - 130

Lab Sample ID: 280-144787-A-1-F MSD
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	ND	E8	1.00	1.18		mg/L		118	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-230880/1-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230880

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		01/20/21 11:53	01/22/21 13:20	1

Lab Sample ID: LCS 550-230880/2-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-230880/3-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.100	0.0983		mg/L		98	85 - 115	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-156601-4 MS
Matrix: Water
Analysis Batch: 231219

Client Sample ID: CH-CCR-M57A-011321
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.013		0.100	0.112		mg/L		99	70 - 130

Lab Sample ID: 550-156601-4 MSD
Matrix: Water
Analysis Batch: 231219

Client Sample ID: CH-CCR-M57A-011321
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.013		0.100	0.106		mg/L		94	70 - 130	5	20

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Metals

Prep Batch: 230880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-4	CH-CCR-M57A-011321	Total/NA	Water	200.8	
MB 550-230880/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-230880/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-230880/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-156601-4 MS	CH-CCR-M57A-011321	Total/NA	Water	200.8	
550-156601-4 MSD	CH-CCR-M57A-011321	Total/NA	Water	200.8	

Analysis Batch: 231219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-4	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880
MB 550-230880/1-A	Method Blank	Total/NA	Water	200.8 LL	230880
LCS 550-230880/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230880
LCSD 550-230880/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230880
550-156601-4 MS	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880
550-156601-4 MSD	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880

Prep Batch: 524297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-1	CH-CCR-M59-011321	Total/NA	Water	200.7	
550-156601-2	CH-CCR-M61-011321	Total/NA	Water	200.7	
550-156601-3	CH-CCR-M60-011321	Total/NA	Water	200.7	
MB 280-524297/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-524297/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-144787-A-1-E MS	Matrix Spike	Total/NA	Water	200.7	
280-144787-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 524555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-1	CH-CCR-M59-011321	Total/NA	Water	200.7 Rev 4.4	524297
550-156601-2	CH-CCR-M61-011321	Total/NA	Water	200.7 Rev 4.4	524297
550-156601-3	CH-CCR-M60-011321	Total/NA	Water	200.7 Rev 4.4	524297
MB 280-524297/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	524297
LCS 280-524297/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	524297
280-144787-A-1-E MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	524297
280-144787-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	524297

Client Sample ID: CH-CCR-M59-011321

Lab Sample ID: 550-156601-1
Date Collected: 01/13/21 10:34
Matrix: Water
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:21	LMT	TAL DEN

Client Sample ID: CH-CCR-M61-011321

Lab Sample ID: 550-156601-2
Date Collected: 01/13/21 11:52
Matrix: Water
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:24	LMT	TAL DEN

Client Sample ID: CH-CCR-M60-011321

Lab Sample ID: 550-156601-3
Date Collected: 01/13/21 13:00
Matrix: Water
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:28	LMT	TAL DEN

Client Sample ID: CH-CCR-M57A-011321

Lab Sample ID: 550-156601-4
Date Collected: 01/13/21 14:35
Matrix: Water
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			230880	01/20/21 11:53	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		1	231219	01/22/21 13:31	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-156601-1
Project/Site: APS - Cholla CCR — SDG: 1420182040.6048.06

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-21
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-20 *
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-21
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-21
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-21 *
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	12-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-21 *
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	02-28-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Chain of Custody Record 479156

eurofins Environment Testing TestAmerica

156601

1/27/2021

Address:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Natalie Chrisman	Site Contact: Jim Edwards	Date: 01/18/2021	COC No:
Company Name: APS (Cholla)	Tel/Email: 602 250 3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
Address: 4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: Joseph City, AZ 86032	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone:	TAT if different from Below			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Cholla CCR	☐ 1 week			
Site:	☐ 2 days			Job / SDG No.:
PO# Project # 1420182040.6048.06	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	200.7 (Li)	200.8 (Cr)	Sample Specific Notes:
1	CH-CCR-M59-011321	01/13/21	10:34	G	W	1	N	N	X		Low Flow / BAA
2	CH-CCR-M61-011321	01/13/21	11:52	G	W	1	N	N	X		"
3	CH-CCR-M60-011321	01/13/21	13:00	G	W	1	N	N	X		"
4	CH-CCR-M57A-011321	01/13/21	14:35	G	W	1	N	N		X	Low Flow / SEDI

550-156601 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

4.0°C

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.:

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Isaac Torres	Wood	01/18/21 12:55			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-Phx	Date/Time: 1/18/21 15:55

CDO

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29714.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-156601-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/29/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Cholla CCR	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M59-011321 (550-156601-1)	1/13/21	10:34 Arizona		Water			X	1	AZ Sample
CH-CCR-M61-011321 (550-156601-2)	1/13/21	11:52 Arizona		Water			X	1	AZ Sample
CH-CCR-M60-011321 (550-156601-3)	1/13/21	13:00 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Eric 01-19-21	14:55	TA-PHX	Fedex		
			Dalen Clark	1/21/21 0915	ETA Den

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.6°C, #9, +0.8°C HC

Ver: 11/01/2020

Page 15 of 17

1/27/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156601-1
SDG Number: 1420182040.6048.06

Login Number: 156601
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156601-1
SDG Number: 1420182040.6048.06

Login Number: 156601
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver
List Creation: 01/21/21 04:49 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-162159-1
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
4/27/2021 3:56:43 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Job ID: 550-162159-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-162159-1

Comments
No additional comments.

Receipt
The samples were received on 4/19/2021 10:41 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 2.7º C and 5.6º C.

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-M59-0421 (550-162159-2). Elevated reporting limits (RLs) have been provided.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: (550-162152-E-42 ^200). As such, an elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-162159-1	CH-CCR-M54-0421	Water	04/16/21 13:45	04/19/21 10:41	
550-162159-2	CH-CCR-M59-0421	Water	04/16/21 11:00	04/19/21 10:41	
550-162159-3	CH-CCR-M60-0421	Water	04/16/21 12:40	04/19/21 10:41	
550-162159-4	CH-CCR-M61-0421	Water	04/16/21 11:54	04/19/21 10:41	
550-162159-5	CH-CCR-FD01-0421	Water	04/16/21 11:00	04/19/21 10:41	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Client Sample ID: CH-CCR-M54-0421 — Lab Sample ID: 550-162159-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	200	52	mg/L	100		300.0	Total/NA
Fluoride	1.4		0.40	0.047	mg/L	1		300.0	Total/NA
Sulfate	420	D2	200	43	mg/L	100		300.0	Total/NA
Boron	0.52		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	100		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M59-0421 — Lab Sample ID: 550-162159-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1200	D2	200	52	mg/L	100		300.0	Total/NA
Fluoride	1.4		0.40	0.047	mg/L	1		300.0	Total/NA
Sulfate	340	D2	200	43	mg/L	100		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	87		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M60-0421 — Lab Sample ID: 550-162159-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	200	52	mg/L	100		300.0	Total/NA
Fluoride	1.5		0.40	0.047	mg/L	1		300.0	Total/NA
Sulfate	340	D2	200	43	mg/L	100		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	85		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	4200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M61-0421 — Lab Sample ID: 550-162159-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	200	52	mg/L	100		300.0	Total/NA
Fluoride	1.5		0.40	0.047	mg/L	1		300.0	Total/NA
Sulfate	340	D2	200	43	mg/L	100		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	91		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD01-0421 — Lab Sample ID: 550-162159-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	350	D1	4.0	0.85	mg/L	2		300.0	Total/NA
Boron	0.48		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	86		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-FD01-0421 (Continued) Lab Sample ID: 550-162159-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M54-0421
Lab Sample ID: 550-162159-1

Date Collected: 04/16/21 13:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1700	D2	200	52	mg/L			04/24/21 03:14	100
Fluoride	1.4		0.40	0.047	mg/L			04/24/21 02:55	1
Sulfate	420	D2	200	43	mg/L			04/24/21 03:14	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.52		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:46	1
Calcium	100		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3300	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.6	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	5.4	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-M59-0421
Lab Sample ID: 550-162159-2

Date Collected: 04/16/21 11:00
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1200	D2	200	52	mg/L			04/21/21 10:25	100
Fluoride	1.4		0.40	0.047	mg/L			04/21/21 09:57	1
Sulfate	340	D2	200	43	mg/L			04/21/21 10:25	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:43	1
Calcium	87		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2800	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.6	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	7.1	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-M60-0421
Lab Sample ID: 550-162159-3

Date Collected: 04/16/21 12:40
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	200	52	mg/L			04/21/21 09:30	100
Fluoride	1.5		0.40	0.047	mg/L			04/21/21 09:03	1
Sulfate	340	D2	200	43	mg/L			04/21/21 09:30	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:50	1
Calcium	85		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:46	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M60-0421
Lab Sample ID: 550-162159-3
Date Collected: 04/16/21 12:40
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4200	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.8	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	5.4	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-M61-0421
Lab Sample ID: 550-162159-4
Date Collected: 04/16/21 11:54
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	200	52	mg/L			04/21/21 08:35	100
Fluoride	1.5		0.40	0.047	mg/L			04/21/21 08:08	1
Sulfate	340	D2	200	43	mg/L			04/21/21 08:35	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:54	1
Calcium	91		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.8	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	5.7	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-FD01-0421
Lab Sample ID: 550-162159-5
Date Collected: 04/16/21 11:00
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	100	mg/L			04/21/21 07:40	200
Fluoride	1.4	D1	0.80	0.095	mg/L			04/21/21 07:13	2
Sulfate	350	D1	4.0	0.85	mg/L			04/21/21 07:13	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.48		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:58	1
Calcium	86		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2800	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.8	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	6.4	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-239974/1030
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 00:22	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 00:22	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 00:22	1

Lab Sample ID: LCS 550-239974/31
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCS 550-239974/5
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.14		mg/L		104	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-239974/32
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	2	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	1	20
Sulfate	20.0	20.7		mg/L		103	90 - 110	2	20

Lab Sample ID: LCSD 550-239974/6
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		105	90 - 110	2	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	2	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	2	20

Lab Sample ID: 550-162159-2 MS
Matrix: Water
Analysis Batch: 239974

Client Sample ID: CH-CCR-M59-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1200	D2	2000	3520	D2	mg/L		114	80 - 120
Fluoride	ND	E8 D1 D5	400	414	D1	mg/L		104	80 - 120
Sulfate	340	D2	2000	2410	D2	mg/L		104	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-162159-2 MSD
Client Sample ID: CH-CCR-M59-0421
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239974

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1200	D2	2000	3520	D2	mg/L		114	80 - 120	0	20
Fluoride	ND	E8 D1 D5	400	415	D1	mg/L		104	80 - 120	0	20
Sulfate	340	D2	2000	2420	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-240346/1030
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240346

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/24/21 00:47	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/24/21 00:47	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/24/21 00:47	1

Lab Sample ID: LCS 550-240346/31
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240346

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240346/32
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240346

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.18		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.4		mg/L		107	90 - 110	1	20

Lab Sample ID: 550-162152-E-42 MS ^200
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240346

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2600	D2	4000	6830	D2	mg/L		105	80 - 120
Fluoride	ND	E8 D1 D5	800	843	D1	mg/L		105	80 - 120
Sulfate	3100	D2	4000	7110	D2	mg/L		100	80 - 120

Lab Sample ID: 550-162152-E-42 MSD ^200
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240346

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2600	D2	4000	7230	D2	mg/L		115	80 - 120	6	20
Fluoride	ND	E8 D1 D5	800	851	D1	mg/L		106	80 - 120	1	20
Sulfate	3100	D2	4000	7560	D2	mg/L		111	80 - 120	6	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-239917/1-A | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240090 | **Prep Batch: 239917**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00262	E4	0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:24	1

Lab Sample ID: MB 550-239917/1-A | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240217 | **Prep Batch: 239917**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:19	1

Lab Sample ID: LCS 550-239917/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240090 | **Prep Batch: 239917**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.974		mg/L		97	85 - 115

Lab Sample ID: LCS 550-239917/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240217 | **Prep Batch: 239917**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	20.5		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-239917/3-A | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240090 | **Prep Batch: 239917**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.982		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-239917/3-A | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240217 | **Prep Batch: 239917**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	20.3		mg/L		97	85 - 115	1	20

Lab Sample ID: 550-162159-2 MS | **Client Sample ID: CH-CCR-M59-0421**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240090 | **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.49		1.00	1.46		mg/L		97	70 - 130

Lab Sample ID: 550-162159-2 MS | **Client Sample ID: CH-CCR-M59-0421**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240217 | **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	87		21.0	102	M3	mg/L		70	70 - 130

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-162159-2 MSD
Matrix: Water
Analysis Batch: 240090

Client Sample ID: CH-CCR-M59-0421
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.49		1.00	1.50		mg/L		101	70 - 130	3	20

Lab Sample ID: 550-162159-2 MSD
Matrix: Water
Analysis Batch: 240217

Client Sample ID: CH-CCR-M59-0421
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	87		21.0	107	M3	mg/L		95	70 - 130	5	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-240227/1
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/23/21 07:38	1

Lab Sample ID: LCS 550-240227/2
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-240227/3
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-162159-2 DU
Matrix: Water
Analysis Batch: 240227

Client Sample ID: CH-CCR-M59-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2800	D2	2720	D2	mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-240533/1
Matrix: Water
Analysis Batch: 240533

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-240533/12
Matrix: Water
Analysis Batch: 240533

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.3	98.5 - 101.5		

Lab Sample ID: 550-162159-2 DU
Matrix: Water
Analysis Batch: 240533

Client Sample ID: CH-CCR-M59-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.7	H5	SU				0.9	5
Temperature	7.1	H5		7.2	H5	Degrees C				1	

HPLC/IC

Analysis Batch: 239974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	300.0	
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	300.0	
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	300.0	
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	300.0	
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	300.0	
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	300.0	
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	300.0	
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	300.0	
MB 550-239974/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-239974/31	Lab Control Sample	Total/NA	Water	300.0	
LCS 550-239974/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239974/32	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 550-239974/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162159-2 MS	CH-CCR-M59-0421	Total/NA	Water	300.0	
550-162159-2 MSD	CH-CCR-M59-0421	Total/NA	Water	300.0	

Analysis Batch: 240346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	300.0	
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	300.0	
MB 550-240346/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-240346/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240346/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162152-E-42 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-162152-E-42 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 239917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	200.7	
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	200.7	
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	200.7	
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	200.7	
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	200.7	
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162159-2 MS	CH-CCR-M59-0421	Total/NA	Water	200.7	
550-162159-2 MSD	CH-CCR-M59-0421	Total/NA	Water	200.7	

Analysis Batch: 240090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	200.7 Rev 4.4	239917
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239917
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239917
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239917

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals (Continued)

Analysis Batch: 240090 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-2 MS	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-2 MSD	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917

Analysis Batch: 240217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	200.7 Rev 4.4	239917
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239917
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239917
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-2 MS	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-2 MSD	CH-CCR-M59-0421	Total/NA	Water	200.7 Rev 4.4	239917

General Chemistry

Analysis Batch: 240227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	SM 2540C	
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	SM 2540C	
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	SM 2540C	
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	SM 2540C	
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	SM 2540C	
MB 550-240227/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240227/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240227/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162159-2 DU	CH-CCR-M59-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-1	CH-CCR-M54-0421	Total/NA	Water	SM 4500 H+ B	
550-162159-2	CH-CCR-M59-0421	Total/NA	Water	SM 4500 H+ B	
550-162159-3	CH-CCR-M60-0421	Total/NA	Water	SM 4500 H+ B	
550-162159-4	CH-CCR-M61-0421	Total/NA	Water	SM 4500 H+ B	
550-162159-5	CH-CCR-FD01-0421	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240533/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240533/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-162159-2 DU	CH-CCR-M59-0421	Total/NA	Water	SM 4500 H+ B	

Client Sample ID: CH-CCR-M54-0421
Lab Sample ID: 550-162159-1

Date Collected: 04/16/21 13:45
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	240346	04/24/21 02:55	JRP	TAL PHX
Total/NA	Analysis	300.0		100	240346	04/24/21 03:14	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 01:46	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:42	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-M59-0421
Lab Sample ID: 550-162159-2

Date Collected: 04/16/21 11:00
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	239974	04/21/21 09:57	JRP	TAL PHX
Total/NA	Analysis	300.0		100	239974	04/21/21 10:25	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 01:43	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:38	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-M60-0421
Lab Sample ID: 550-162159-3

Date Collected: 04/16/21 12:40
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	239974	04/21/21 09:03	JRP	TAL PHX
Total/NA	Analysis	300.0		100	239974	04/21/21 09:30	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 01:50	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:46	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-M61-0421
Lab Sample ID: 550-162159-4
Date Collected: 04/16/21 11:54
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		1	239974	04/21/21 08:08	JRP	TAL PHX
Total/NA	Analysis	300.0		100	239974	04/21/21 08:35	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 01:54	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:50	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-FD01-0421
Lab Sample ID: 550-162159-5
Date Collected: 04/16/21 11:00
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 07:13	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 07:40	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 01:58	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:53	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Job ID: 550-162159-1
Project/Site: CCR Groundwater Monitoring

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162159-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

162159

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact			
Arizona Public Service	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
4801 Cholla Lake Rd	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
Joseph City, AZ 86032			
(928) 587-0319 Phone			
FAX			
Project Name: CCR Groundwater Monitoring			
Site: APS Cholla Power Plant (BAM)			
PO #: 300588233			

COC No: 1 of 1 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Analysis Turnaround Time
☐ CALENDAR DAYS ☑ WORKING DAYS
TAT if different from Below ________
☑ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca)	SM 4500-HB (pH)	SM 2540C (TDS)	Sample Specific Notes:
-1	CH-CCR-M54-0421	4/16/2021	13:45	G	W	2	N	N	X	X	X	X	Low Flow
-2	CH-CCR-M59-0421	4/16/2021	11:00	G	W	2	N	Y	X	X	X	X	"
-3	CH-CCR-M60-0421	4/16/2021	12:40	G	W	2	N	N	X	X	X	X	"
-4	CH-CCR-M61-0421	4/16/2021	11:54	G	W	2	N	N	X	X	X	X	"
-5	CH-CCR-FD01-0421	4/16/2021	11:00	G	W	2	N	N	X	X	X	X	Low Flow, Field Dupe
-2	CH-CCR-M59-0421-MS	4/16/2021	11:00	G	W	2	N	N	X	X	X	X	Low Flow, MS
-2	CH-CCR-M59-0421-SD	4/16/2021	11:00	G	W	2	N	N	X	X	X	X	Low Flow, MSD

550-162159 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ________ 1 4 1 1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for________ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

2.7/5.6

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:________ Corr'd:________ Therm ID No.:________			
Relinquished by: [signature] Marc Wudler	Company: Wood	Date/Time: 4/19/21 10:41	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: TA-PHX	Date/Time: 4/19/21 10:41

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

GD2

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162159-1

Login Number: 162159
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-166821-1
Laboratory SDG: APS Cholla Power Plant (BAM)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
7/15/2021 7:21:40 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-166821-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

General Chemistry

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-166821-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-166821-1

Comments
No additional comments.

Receipt
The sample was received on 7/9/2021 4:50 PM. Unless otherwise noted below, the sample arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 0.4º C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-166821-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-166821-1	CH-CCR-M60-0721	Water	07/07/21 09:55	07/09/21 16:50	

Detection Summary

Client: Arizona Public Service Company | Job ID: 550-166821-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-0721 | Lab Sample ID: 550-166821-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2700		100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-166821-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M60-0721
Date Collected: 07/07/21 09:55
Date Received: 07/09/21 16:50

Lab Sample ID: 550-166821-1
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2700		100	100	mg/L			07/12/21 19:43	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-166821-1
SDG: APS Cholla Power Plant (BAM)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-247592/1
Matrix: Water
Analysis Batch: 247592

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			07/12/21 19:43	1

Lab Sample ID: LCS 550-247592/2
Matrix: Water
Analysis Batch: 247592

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	940		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-247592/3
Matrix: Water
Analysis Batch: 247592

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	918		mg/L		92	90 - 110	2	10

Lab Sample ID: 550-166798-A-1 DU
Matrix: Water
Analysis Batch: 247592

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1400		1410		mg/L		0.4	10

General Chemistry

Analysis Batch: 247592

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166821-1	CH-CCR-M60-0721	Total/NA	Water	SM 2540C	
MB 550-247592/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-247592/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-247592/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-166798-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Client Sample ID: CH-CCR-M60-0721
Date Collected: 07/07/21 09:55
Date Received: 07/09/21 16:50

Lab Sample ID: 550-166821-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	247592		CMM	TAL PHX
					(Start)	07/12/21 19:43		
					(End)	07/13/21 14:00		

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-166821-1
SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method	Method Description	Protocol	Laboratory
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

166821

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

7/15/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	**Natalie Chrisman**	**Jim Edwards / (928) 288-1241**	**Date:**	COC No:
Arizona Public Service	**(602) 250-3608**	**Lab Contact: Ken Baker**	**Carrier:**	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAM)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	SM 2540C (TDS)	Sample Specific Notes:
CH-CCR-M60-0721	07/07/21	9:55	G	W	1	N		X	Low Flow

550-166821 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____ 1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

0.4°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____

Relinquished by: [signature]	Company: Wood PLC	Date/Time: 7-9-21 / 16:50	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: ETA PHX	Date/Time: 7/9/21 1650

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-166821-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 166821
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-173427-1
Laboratory SDG: APS Cholla Power Plant (BAM)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
11/12/2021 7:27:09 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173427-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H3	Sample was received and/ or analysis requested past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-173427-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-173427-1

Comments
No additional comments.

Receipt
The samples were received on 11/1/2021 3:45 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6º C.

Receipt Exceptions
The following samples were received outside of holding time:

TDS was received past hold.

CH-CCR-M54-1021 (550-173427-1), CH-CCR-M59-1021 (550-173427-2), CH-CCR-M60-1021 (550-173427-3) and CH-CCR-FD01-1021 (550-173427-5).

HPLC/IC
Method 300.0: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample and laboratory control sample duplicate (LCS/LCSD), associated with analytical batch 550-258214 by method EPA 300.0. The LCS/LCSD percent recoveries were calculated using the actual amount spiked which achieved results within the acceptance range.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173427-1
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173427-1	CH-CCR-M54-1021	Water	10/24/21 15:57	11/01/21 15:45
550-173427-2	CH-CCR-M59-1021	Water	10/24/21 13:01	11/01/21 15:45
550-173427-3	CH-CCR-M60-1021	Water	10/24/21 15:05	11/01/21 15:45
550-173427-4	CH-CCR-M61-1021	Water	10/24/21 14:00	11/01/21 15:45
550-173427-5	CH-CCR-FD01-1021	Water	10/24/21 14:00	11/01/21 15:45

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173427-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1021 — Lab Sample ID: 550-173427-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	400	D2	400	85	mg/L	200		300.0	Total/NA
Boron	0.50		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	96		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2700	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M59-1021 — Lab Sample ID: 550-173427-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	400	D2	400	85	mg/L	200		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	84		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2300	D2 H3	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M60-1021 — Lab Sample ID: 550-173427-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	450	D2	20	4.3	mg/L	10		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	85		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	2900	D2 H3	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M61-1021 — Lab Sample ID: 550-173427-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	400	D2	400	85	mg/L	200		300.0	Total/NA
Boron	0.48		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	88		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Total Dissolved Solids	3200	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD01-1021 — Lab Sample ID: 550-173427-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	450	D2	20	4.3	mg/L	10		300.0	Total/NA
Boron	0.49		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	89		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-FD01-1021 (Continued) Lab Sample ID: 550-173427-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	3000	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173427-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1021

Lab Sample ID: 550-173427-1
Date Collected: 10/24/21 15:57
Date Received: 11/01/21 15:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	100	mg/L			11/09/21 01:07	200
Fluoride	1.4	D1	0.80	0.095	mg/L			11/09/21 00:49	2
Sulfate	400	D2	400	85	mg/L			11/09/21 01:07	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.50		0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:38	1
Calcium	96		2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2700	D2 H3	100	100	mg/L			11/10/21 06:13	1
pH	7.7	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	12.6	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M59-1021

Lab Sample ID: 550-173427-2
Date Collected: 10/24/21 13:01
Date Received: 11/01/21 15:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	100	mg/L			11/09/21 01:44	200
Fluoride	1.4	D1	0.80	0.095	mg/L			11/09/21 01:26	2
Sulfate	400	D2	400	85	mg/L			11/09/21 01:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:41	1
Calcium	84		2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300	D2 H3	40	40	mg/L			11/10/21 06:13	1
pH	7.7	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	12.9	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M60-1021

Lab Sample ID: 550-173427-3
Date Collected: 10/24/21 15:05
Date Received: 11/01/21 15:45
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1300	D2	400	100	mg/L			11/09/21 02:21	200
Fluoride	1.5	D1	0.80	0.095	mg/L			11/09/21 02:03	2
Sulfate	450	D2	20	4.3	mg/L			11/09/21 18:09	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:43	1
Calcium	85		2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:43	1

Client Sample ID: CH-CCR-M60-1021

Lab Sample ID: 550-173427-3
Date Collected: 10/24/21 15:05
Matrix: Water
Date Received: 11/01/21 15:45

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2900	D2 H3	40	40	mg/L			11/10/21 06:13	1
pH	7.6	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	14.2	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M61-1021

Lab Sample ID: 550-173427-4
Date Collected: 10/24/21 14:00
Matrix: Water
Date Received: 11/01/21 15:45

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	100	mg/L			11/08/21 22:03	200
Fluoride	1.4	D1	0.80	0.095	mg/L			11/08/21 21:08	2
Sulfate	400	D2	400	85	mg/L			11/08/21 22:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.48		0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:35	1
Calcium	88		2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3200	D2 H3	100	100	mg/L			11/10/21 06:13	1
pH	7.6	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.7	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-FD01-1021

Lab Sample ID: 550-173427-5
Date Collected: 10/24/21 14:00
Matrix: Water
Date Received: 11/01/21 15:45

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	100	mg/L			11/09/21 02:58	200
Fluoride	1.4	D1	0.80	0.095	mg/L			11/09/21 02:39	2
Sulfate	450	D2	20	4.3	mg/L			11/09/21 18:27	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.49		0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:46	1
Calcium	89		2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3000	D2 H3	100	100	mg/L			11/10/21 06:13	1
pH	7.6	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.9	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-258036/1030
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/08/21 20:13	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/08/21 20:13	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/08/21 20:13	1

Lab Sample ID: LCS 550-258036/31
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.14		mg/L		103	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-258036/32
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-173427-4 MS
Matrix: Water
Analysis Batch: 258036

Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.4	D1	8.00	9.75	D1	mg/L		104	80 - 120

Lab Sample ID: 550-173427-4 MS
Matrix: Water
Analysis Batch: 258036

Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1400	D2	4000	5610	D2	mg/L		106	80 - 120
Sulfate	400	D2	4000	4590	D2	mg/L		105	80 - 120

Lab Sample ID: 550-173427-4 MSD
Matrix: Water
Analysis Batch: 258036

Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.4	D1	8.00	9.80	D1	mg/L		105	80 - 120	0	20

Lab Sample ID: 550-173427-4 MSD
Matrix: Water
Analysis Batch: 258036

Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1400	D2	4000	5560	D2	mg/L		105	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173427-4 MSD
Matrix: Water
Analysis Batch: 258036

Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	400	D2	4000	4570	D2	mg/L		104	80 - 120	1	20

Lab Sample ID: MB 550-258214/2
Matrix: Water
Analysis Batch: 258214

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/09/21 11:27	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/09/21 11:27	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/09/21 11:27	1

Lab Sample ID: LCS 550-258214/5
Matrix: Water
Analysis Batch: 258214

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	22.0	22.4		mg/L		102	90 - 110
Fluoride	4.40	4.53		mg/L		103	90 - 110
Sulfate	22.0	22.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-258214/6
Matrix: Water
Analysis Batch: 258214

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22.0	22.4		mg/L		102	90 - 110	0	20
Fluoride	4.40	4.53		mg/L		103	90 - 110	0	20
Sulfate	22.0	22.8		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-173938-E-1 MS
Matrix: Water
Analysis Batch: 258214

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	520	E2 M3	20.0	511	E2 M3	mg/L		-30	80 - 120
Fluoride	0.61		4.00	4.59		mg/L		99	80 - 120
Sulfate	740	E2 M3	20.0	731	E2 M3	mg/L		-60	80 - 120

Lab Sample ID: 550-173938-E-1 MSD
Matrix: Water
Analysis Batch: 258214

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	520	E2 M3	20.0	510	E2 M3	mg/L		-31	80 - 120	0	20
Fluoride	0.61		4.00	4.69		mg/L		102	80 - 120	2	20
Sulfate	740	E2 M3	20.0	731	E2 M3	mg/L		-61	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-257979/1-A
Matrix: Water
Analysis Batch: 258169
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257979

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00442	E4	0.050	0.0025	mg/L		11/08/21 10:44	11/09/21 17:23	1
Calcium	ND	E8	2.0	0.013	mg/L		11/08/21 10:44	11/09/21 17:23	1

Lab Sample ID: LCS 550-257979/2-A
Matrix: Water
Analysis Batch: 258169
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257979

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.973		mg/L		97	85 - 115
Calcium	21.0	20.7		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-257979/3-A
Matrix: Water
Analysis Batch: 258169
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257979

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.976		mg/L		98	85 - 115	0	20
Calcium	21.0	21.0		mg/L		100	85 - 115	1	20

Lab Sample ID: 550-173427-4 MS
Matrix: Water
Analysis Batch: 258169
Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA
Prep Batch: 257979

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.48		1.00	1.47		mg/L		98	70 - 130
Calcium	88		21.0	107	M3	mg/L		90	70 - 130

Lab Sample ID: 550-173427-4 MSD
Matrix: Water
Analysis Batch: 258169
Client Sample ID: CH-CCR-M61-1021
Prep Type: Total/NA
Prep Batch: 257979

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.48		1.00	1.48		mg/L		100	70 - 130	1	20
Calcium	88		21.0	109	M3	mg/L		100	70 - 130	2	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-258146/1
Matrix: Water
Analysis Batch: 258146
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/10/21 06:13	1

Lab Sample ID: LCS 550-258146/2
Matrix: Water
Analysis Batch: 258146
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-258146/3
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	976		mg/L		98	90 - 110	5	10

Lab Sample ID: 550-173427-1 DU
Matrix: Water
Analysis Batch: 258146

Client Sample ID: CH-CCR-M54-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2700	H3 D2		2930	D2	mg/L				7	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-258399/25
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/37
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		100.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/49
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		100.9	98.5 - 101.5		

Lab Sample ID: 550-173423-A-4 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0.3	5
Temperature	12.0	H5		12.2	H5	Degrees C				2	

Lab Sample ID: 550-173427-3 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: CH-CCR-M60-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0.3	5
Temperature	14.2	H5		14.3	H5	Degrees C				0.7	

HPLC/IC

Analysis Batch: 258036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	300.0	
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	300.0	
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	300.0	
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	300.0	
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	300.0	
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	300.0	
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	300.0	
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	300.0	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	300.0	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	300.0	
MB 550-258036/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258036/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258036/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173427-4 MS	CH-CCR-M61-1021	Total/NA	Water	300.0	
550-173427-4 MS	CH-CCR-M61-1021	Total/NA	Water	300.0	
550-173427-4 MSD	CH-CCR-M61-1021	Total/NA	Water	300.0	
550-173427-4 MSD	CH-CCR-M61-1021	Total/NA	Water	300.0	

Analysis Batch: 258214

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	300.0	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	300.0	
MB 550-258214/2	Method Blank	Total/NA	Water	300.0	
LCS 550-258214/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258214/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173938-E-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173938-E-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 257979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	200.7	
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	200.7	
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	200.7	
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	200.7	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	200.7	
MB 550-257979/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257979/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257979/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173427-4 MS	CH-CCR-M61-1021	Total/NA	Water	200.7	
550-173427-4 MSD	CH-CCR-M61-1021	Total/NA	Water	200.7	

Analysis Batch: 258169

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	200.7 Rev 4.4	257979
MB 550-257979/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257979

Metals (Continued)

Analysis Batch: 258169 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-257979/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257979
LCSD 550-257979/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-4 MS	CH-CCR-M61-1021	Total/NA	Water	200.7 Rev 4.4	257979
550-173427-4 MSD	CH-CCR-M61-1021	Total/NA	Water	200.7 Rev 4.4	257979

General Chemistry

Analysis Batch: 258146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	SM 2540C	
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	SM 2540C	
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	SM 2540C	
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	SM 2540C	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	SM 2540C	
MB 550-258146/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-258146/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-258146/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173427-1 DU	CH-CCR-M54-1021	Total/NA	Water	SM 2540C	

Analysis Batch: 258399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173427-1	CH-CCR-M54-1021	Total/NA	Water	SM 4500 H+ B	
550-173427-2	CH-CCR-M59-1021	Total/NA	Water	SM 4500 H+ B	
550-173427-3	CH-CCR-M60-1021	Total/NA	Water	SM 4500 H+ B	
550-173427-4	CH-CCR-M61-1021	Total/NA	Water	SM 4500 H+ B	
550-173427-5	CH-CCR-FD01-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173423-A-4 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-173427-3 DU	CH-CCR-M60-1021	Total/NA	Water	SM 4500 H+ B	

Client Sample ID: CH-CCR-M54-1021
Date Collected: 10/24/21 15:57
Date Received: 11/01/21 15:45

Lab Sample ID: 550-173427-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/09/21 00:49	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258036	11/09/21 01:07	JNW	TAL PHX
Total/NA	Prep	200.7			257979	11/08/21 10:44	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258169	11/09/21 17:38	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M59-1021
Date Collected: 10/24/21 13:01
Date Received: 11/01/21 15:45

Lab Sample ID: 550-173427-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/09/21 01:26	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258036	11/09/21 01:44	JNW	TAL PHX
Total/NA	Prep	200.7			257979	11/08/21 10:44	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258169	11/09/21 17:41	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M60-1021
Date Collected: 10/24/21 15:05
Date Received: 11/01/21 15:45

Lab Sample ID: 550-173427-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/09/21 02:03	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258036	11/09/21 02:21	JNW	TAL PHX
Total/NA	Analysis	300.0		10	258214	11/09/21 18:09	JNW	TAL PHX
Total/NA	Prep	200.7			257979	11/08/21 10:44	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258169	11/09/21 17:43	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M61-1021
Date Collected: 10/24/21 14:00
Date Received: 11/01/21 15:45

Lab Sample ID: 550-173427-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/08/21 21:08	JNW	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173427-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M61-1021

Lab Sample ID: 550-173427-4

Date Collected: 10/24/21 14:00

Matrix: Water

Date Received: 11/01/21 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	258036	11/08/21 22:03	JNW	TAL PHX
Total/NA	Prep	200.7			257979	11/08/21 10:44	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258169	11/09/21 17:35	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-FD01-1021

Lab Sample ID: 550-173427-5

Date Collected: 10/24/21 14:00

Matrix: Water

Date Received: 11/01/21 15:45

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/09/21 02:39	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258036	11/09/21 02:58	JNW	TAL PHX
Total/NA	Analysis	300.0		10	258214	11/09/21 18:27	JNW	TAL PHX
Total/NA	Prep	200.7			257979	11/08/21 10:44	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258169	11/09/21 17:46	MGM	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-173427-1
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173427

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

11/12/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAM)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	...0 (Cl, F, ...4)	...7 - Total ... Ca)	...-HB (pH)	2540C (TDS)	Sample Specific Notes:
CH-CCR-M54-1021 -01	10/24/2021	15:57	G	W	2	N		X	X	X	X	Low Flow
CH-CCR-M59-1021 -02	10/24/2021	13:01	G	W	2	N		X	X	X	X	"
CH-CCR-M60-1021 -03	10/24/2021	15:05	G	W	2	N		X	X	X	X	"
CH-CCR-M61-1021 -04	10/24/2021	14:00	G	W	2	N		X	X	X	X	"
CH-CCR-FD01-1021 -05	10/24/2021	14:00	G	W	2	N	N	X	X	X	X	"
CH-CCR-M61-1021-MS -04	10/24/2021	14:00	G	W	2	N	N	X	X	X	X	Low Flow, MS
CH-CCR-M61-1021-SD -04	10/24/2021	14:00	G	W	2	N	N	X	X	X	X	Low Flow, MSD

550-173427 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ 1 4 1 1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for______ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

Temp 1.6 C

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:______ Corr'd:______ Therm ID No.:______

Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX LAB	Date/Time: 11-01-21 15:45

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173427-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 173427
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-174639-1
Laboratory SDG: APS Cholla Power Plant (BAM)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
11/30/2021 6:34:30 PM
Rachelle Ferguson, Project Manager I
(602)437-3340
fergusonr@eurofinset.com

Designee for

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-1
SDG: APS Cholla Power Plant (BAM)

Qualifiers

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-174639-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-174639-1

Comments
No additional comments.

Receipt
The samples were received on 11/20/2021 10:16 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company | Job ID: 550-174639-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-174639-1	CH-CCR-M54-1121	Water	11/19/21 13:46	11/20/21 10:16
550-174639-2	CH-CCR-M59-1121	Water	11/19/21 11:46	11/20/21 10:16
550-174639-3	CH-CCR-M60-1121	Water	11/19/21 13:07	11/20/21 10:16
550-174639-4	CH-CCR-M61-1121	Water	11/19/21 12:26	11/20/21 10:16
550-174639-5	CH-CCR-FD01-1121	Water	11/19/21 12:26	11/20/21 10:16

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1121

Lab Sample ID: 550-174639-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2300	D2	100	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-CCR-M59-1121

Lab Sample ID: 550-174639-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2600	D2	40	40	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-CCR-M60-1121

Lab Sample ID: 550-174639-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2200	D2	100	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-CCR-M61-1121

Lab Sample ID: 550-174639-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2300	D2	100	100	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-CCR-FD01-1121

Lab Sample ID: 550-174639-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	2300	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-1
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1121

Lab Sample ID: 550-174639-1
Date Collected: 11/19/21 13:46
Matrix: Water
Date Received: 11/20/21 10:16

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300	D2	100	100	mg/L			11/24/21 13:32	1

Client Sample ID: CH-CCR-M59-1121

Lab Sample ID: 550-174639-2
Date Collected: 11/19/21 11:46
Matrix: Water
Date Received: 11/20/21 10:16

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2600	D2	40	40	mg/L			11/24/21 13:32	1

Client Sample ID: CH-CCR-M60-1121

Lab Sample ID: 550-174639-3
Date Collected: 11/19/21 13:07
Matrix: Water
Date Received: 11/20/21 10:16

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200	D2	100	100	mg/L			11/24/21 13:32	1

Client Sample ID: CH-CCR-M61-1121

Lab Sample ID: 550-174639-4
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300	D2	100	100	mg/L			11/24/21 13:32	1

Client Sample ID: CH-CCR-FD01-1121

Lab Sample ID: 550-174639-5
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2300	D2	100	100	mg/L			11/24/21 13:32	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-1
SDG: APS Cholla Power Plant (BAM)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-259596/1
Matrix: Water
Analysis Batch: 259596

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/24/21 13:32	1

Lab Sample ID: LCS 550-259596/2
Matrix: Water
Analysis Batch: 259596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	910		mg/L		91	90 - 110

Lab Sample ID: LCSD 550-259596/3
Matrix: Water
Analysis Batch: 259596

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	912		mg/L		91	90 - 110	1	10

Lab Sample ID: 550-174639-4 DU
Matrix: Water
Analysis Batch: 259596

Client Sample ID: CH-CCR-M61-1121
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2300	D2	2450	D2	mg/L		5	10

General Chemistry

Analysis Batch: 259596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-174639-1	CH-CCR-M54-1121	Total/NA	Water	SM 2540C	
550-174639-2	CH-CCR-M59-1121	Total/NA	Water	SM 2540C	
550-174639-3	CH-CCR-M60-1121	Total/NA	Water	SM 2540C	
550-174639-4	CH-CCR-M61-1121	Total/NA	Water	SM 2540C	
550-174639-5	CH-CCR-FD01-1121	Total/NA	Water	SM 2540C	
MB 550-259596/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-259596/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-259596/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-174639-4 DU	CH-CCR-M61-1121	Total/NA	Water	SM 2540C	

Client Sample ID: CH-CCR-M54-1121 **Lab Sample ID: 550-174639-1**
Date Collected: 11/19/21 13:46 **Matrix: Water**
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	259596		EJR	TAL PHX
					(Start)	11/24/21 13:32		
					(End)	11/30/21 14:14		

Client Sample ID: CH-CCR-M59-1121 **Lab Sample ID: 550-174639-2**
Date Collected: 11/19/21 11:46 **Matrix: Water**
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	259596		EJR	TAL PHX
					(Start)	11/24/21 13:32		
					(End)	11/30/21 14:14		

Client Sample ID: CH-CCR-M60-1121 **Lab Sample ID: 550-174639-3**
Date Collected: 11/19/21 13:07 **Matrix: Water**
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	259596		EJR	TAL PHX
					(Start)	11/24/21 13:32		
					(End)	11/30/21 14:14		

Client Sample ID: CH-CCR-M61-1121 **Lab Sample ID: 550-174639-4**
Date Collected: 11/19/21 12:26 **Matrix: Water**
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	259596		EJR	TAL PHX
					(Start)	11/24/21 13:32		
					(End)	11/30/21 14:14		

Client Sample ID: CH-CCR-FD01-1121 **Lab Sample ID: 550-174639-5**
Date Collected: 11/19/21 12:26 **Matrix: Water**
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	259596		EJR	TAL PHX
					(Start)	11/24/21 13:32		
					(End)	11/30/21 14:14		

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-1
SDG: APS Cholla Power Plant (BAM)

Method	Method Description	Protocol	Laboratory
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX

Protocol References:

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

174639

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

11/30/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	**Natalie Chrisman**	**Jim Edwards / (928) 288-1241**	**Date:**	COC No:
Arizona Public Service	**(602) 250-3608**	**Lab Contact: Ken Baker**	**Carrier:**	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAM)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	PA 300 (Cl, F, SO4)	PA 200 Totals (B, Ca)	M 4500 B (pH)	M 2540C (TDS)		Sample Specific Notes:
CH-CCR-M54-1121	11/19/21	13:46	G	W	1	N	N				X	-01	Low Flow
CH-CCR-M59-1121	11	11:46	G	W	1	N	N				X	-02	"
CH-CCR-M60-1121	11	13:07	G	W	1	N	N				X	-03	"
CH-CCR-M61-1121	11	12:26	G	W	1	N	Y				X	-04	"
CH-CCR-FD01-1121	11	12:26	G	W	1	N	N				X	-05	"
CH-CCR-M61-1121-MS	11	12:26	G	W	1	N	N				X	-04	Low Flow, ~~MS~~ duplicate
CH-CCR-M61-1121-SD	11	12:26	G	W	1	N	N				X	-04	Low Flow, ~~MSD~~ duplicate

550-174639 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ 1 4 1 1

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

1.4°

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by: [signature]	Company: Wood	Date/Time: 11/20/21 10:16	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: ETA-PHX	Date/Time: 11/30/21 10:16

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-174639-1
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 174639
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-174639-2
Laboratory SDG: APS Cholla Power Plant (BAM)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
12/13/2021 4:10:22 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-2
SDG: APS Cholla Power Plant (BAM)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-174639-2

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-174639-2

Comments
No additional comments.

Receipt
The samples were received on 11/20/2021 10:16 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-2
SDG: APS Cholla Power Plant (BAM)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-174639-1	CH-CCR-M54-1121	Water	11/19/21 13:46	11/20/21 10:16
550-174639-2	CH-CCR-M59-1121	Water	11/19/21 11:46	11/20/21 10:16
550-174639-3	CH-CCR-M60-1121	Water	11/19/21 13:07	11/20/21 10:16
550-174639-4	CH-CCR-M61-1121	Water	11/19/21 12:26	11/20/21 10:16
550-174639-5	CH-CCR-FD01-1121	Water	11/19/21 12:26	11/20/21 10:16

Client Sample ID: CH-CCR-M54-1121 — Lab Sample ID: 550-174639-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	370	D2	4.0	0.85	mg/L	2		300.0	Total/NA

Client Sample ID: CH-CCR-M59-1121 — Lab Sample ID: 550-174639-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	360	D2	4.0	0.85	mg/L	2		300.0	Total/NA

Client Sample ID: CH-CCR-M60-1121 — Lab Sample ID: 550-174639-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	370	D2	4.0	0.85	mg/L	2		300.0	Total/NA

Client Sample ID: CH-CCR-M61-1121 — Lab Sample ID: 550-174639-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	370	D2	4.0	0.85	mg/L	2		300.0	Total/NA

Client Sample ID: CH-CCR-FD01-1121 — Lab Sample ID: 550-174639-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sulfate	370	D2	4.0	0.85	mg/L	2		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-2
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1121
Lab Sample ID: 550-174639-1
Date Collected: 11/19/21 13:46
Matrix: Water
Date Received: 11/20/21 10:16

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	370	D2	4.0	0.85	mg/L			12/01/21 21:17	2

Client Sample ID: CH-CCR-M59-1121
Lab Sample ID: 550-174639-2
Date Collected: 11/19/21 11:46
Matrix: Water
Date Received: 11/20/21 10:16

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	360	D2	4.0	0.85	mg/L			12/01/21 21:45	2

Client Sample ID: CH-CCR-M60-1121
Lab Sample ID: 550-174639-3
Date Collected: 11/19/21 13:07
Matrix: Water
Date Received: 11/20/21 10:16

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	370	D2	4.0	0.85	mg/L			12/01/21 22:41	2

Client Sample ID: CH-CCR-M61-1121
Lab Sample ID: 550-174639-4
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	370	D2	4.0	0.85	mg/L			12/01/21 23:37	2

Client Sample ID: CH-CCR-FD01-1121
Lab Sample ID: 550-174639-5
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	370	D2	4.0	0.85	mg/L			12/02/21 02:53	2

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-260098/2
Matrix: Water
Analysis Batch: 260098

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND	E8	2.0	0.43	mg/L			12/01/21 13:22	1

Lab Sample ID: LCS 550-260098/5
Matrix: Water
Analysis Batch: 260098

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	20.0	19.7		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-260098/6
Matrix: Water
Analysis Batch: 260098

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-174969-A-1 MS
Matrix: Water
Analysis Batch: 260098

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	220	E2 M3	20.0	226	E2 M3	mg/L		56	80 - 120

Lab Sample ID: 550-174969-A-1 MSD
Matrix: Water
Analysis Batch: 260098

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	220	E2 M3	20.0	227	E2 M3	mg/L		60	80 - 120	0	20

Lab Sample ID: 550-174639-4 DU
Matrix: Water
Analysis Batch: 260098

Client Sample ID: CH-CCR-M61-1121
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Sulfate	370	D2	362	D2	mg/L		0.8	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-2
SDG: APS Cholla Power Plant (BAM)

HPLC/IC

Analysis Batch: 260098

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-174639-1	CH-CCR-M54-1121	Total/NA	Water	300.0	
550-174639-2	CH-CCR-M59-1121	Total/NA	Water	300.0	
550-174639-3	CH-CCR-M60-1121	Total/NA	Water	300.0	
550-174639-4	CH-CCR-M61-1121	Total/NA	Water	300.0	
550-174639-5	CH-CCR-FD01-1121	Total/NA	Water	300.0	
MB 550-260098/2	Method Blank	Total/NA	Water	300.0	
LCS 550-260098/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-260098/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-174969-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-174969-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-174639-4 DU	CH-CCR-M61-1121	Total/NA	Water	300.0	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-174639-2
SDG: APS Cholla Power Plant (BAM)

Client Sample ID: CH-CCR-M54-1121
Lab Sample ID: 550-174639-1
Date Collected: 11/19/21 13:46
Matrix: Water
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	260098	12/01/21 21:17	JNW	TAL PHX

Client Sample ID: CH-CCR-M59-1121
Lab Sample ID: 550-174639-2
Date Collected: 11/19/21 11:46
Matrix: Water
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	260098	12/01/21 21:45	JNW	TAL PHX

Client Sample ID: CH-CCR-M60-1121
Lab Sample ID: 550-174639-3
Date Collected: 11/19/21 13:07
Matrix: Water
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	260098	12/01/21 22:41	JNW	TAL PHX

Client Sample ID: CH-CCR-M61-1121
Lab Sample ID: 550-174639-4
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	260098	12/01/21 23:37	JNW	TAL PHX

Client Sample ID: CH-CCR-FD01-1121
Lab Sample ID: 550-174639-5
Date Collected: 11/19/21 12:26
Matrix: Water
Date Received: 11/20/21 10:16

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	260098	12/02/21 02:53	JNW	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company | Job ID: 550-174639-2
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (BAM)

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX

Protocol References:

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-174639-2
SDG Number: APS Cholla Power Plant (BAM)

Login Number: 174639
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-156601-1
Laboratory Sample Delivery Group: 1420182040.6048.06
Client Project/Site: APS - Cholla CCR

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
1/27/2021 7:53:40 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-156601-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-156601-1

Comments
No additional comments.

Receipt
The samples were received on 1/18/2021 3:55 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.0º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-156601-1	CH-CCR-M59-011321	Water	01/13/21 10:34	01/18/21 15:55	
550-156601-2	CH-CCR-M61-011321	Water	01/13/21 11:52	01/18/21 15:55	
550-156601-3	CH-CCR-M60-011321	Water	01/13/21 13:00	01/18/21 15:55	
550-156601-4	CH-CCR-M57A-011321	Water	01/13/21 14:35	01/18/21 15:55	

Detection Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Client Sample ID: CH-CCR-M59-011321 — Lab Sample ID: 550-156601-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.051		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M61-011321 — Lab Sample ID: 550-156601-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.045		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M60-011321 — Lab Sample ID: 550-156601-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.042		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CCR-M57A-011321 — Lab Sample ID: 550-156601-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.013		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Client Sample ID: CH-CCR-M59-011321

Lab Sample ID: 550-156601-1
Date Collected: 01/13/21 10:34
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.051		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:21	1

Client Sample ID: CH-CCR-M61-011321

Lab Sample ID: 550-156601-2
Date Collected: 01/13/21 11:52
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.045		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:24	1

Client Sample ID: CH-CCR-M60-011321

Lab Sample ID: 550-156601-3
Date Collected: 01/13/21 13:00
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.042		0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 14:28	1

Client Sample ID: CH-CCR-M57A-011321

Lab Sample ID: 550-156601-4
Date Collected: 01/13/21 14:35
Matrix: Water
Date Received: 01/18/21 15:55

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.013		0.0010	0.00043	mg/L		01/20/21 11:53	01/22/21 13:31	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 280-524297/1-A
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 524297

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		01/22/21 14:51	01/25/21 13:58	1

Lab Sample ID: LCS 280-524297/2-A
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.09		mg/L		109	90 - 112

Lab Sample ID: 280-144787-A-1-E MS
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	ND	E8	1.00	1.15		mg/L		115	70 - 130

Lab Sample ID: 280-144787-A-1-F MSD
Matrix: Water
Analysis Batch: 524555

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 524297

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	ND	E8	1.00	1.18		mg/L		118	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-230880/1-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230880

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		01/20/21 11:53	01/22/21 13:20	1

Lab Sample ID: LCS 550-230880/2-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-230880/3-A
Matrix: Water
Analysis Batch: 231219

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.100	0.0983		mg/L		98	85 - 115	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-156601-4 MS
Matrix: Water
Analysis Batch: 231219

Client Sample ID: CH-CCR-M57A-011321
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.013		0.100	0.112		mg/L		99	70 - 130

Lab Sample ID: 550-156601-4 MSD
Matrix: Water
Analysis Batch: 231219

Client Sample ID: CH-CCR-M57A-011321
Prep Type: Total/NA
Prep Batch: 230880

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.013		0.100	0.106		mg/L		94	70 - 130	5	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Metals

Prep Batch: 230880

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-4	CH-CCR-M57A-011321	Total/NA	Water	200.8	
MB 550-230880/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-230880/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-230880/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-156601-4 MS	CH-CCR-M57A-011321	Total/NA	Water	200.8	
550-156601-4 MSD	CH-CCR-M57A-011321	Total/NA	Water	200.8	

Analysis Batch: 231219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-4	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880
MB 550-230880/1-A	Method Blank	Total/NA	Water	200.8 LL	230880
LCS 550-230880/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230880
LCSD 550-230880/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230880
550-156601-4 MS	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880
550-156601-4 MSD	CH-CCR-M57A-011321	Total/NA	Water	200.8 LL	230880

Prep Batch: 524297

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-1	CH-CCR-M59-011321	Total/NA	Water	200.7	
550-156601-2	CH-CCR-M61-011321	Total/NA	Water	200.7	
550-156601-3	CH-CCR-M60-011321	Total/NA	Water	200.7	
MB 280-524297/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-524297/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-144787-A-1-E MS	Matrix Spike	Total/NA	Water	200.7	
280-144787-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 524555

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156601-1	CH-CCR-M59-011321	Total/NA	Water	200.7 Rev 4.4	524297
550-156601-2	CH-CCR-M61-011321	Total/NA	Water	200.7 Rev 4.4	524297
550-156601-3	CH-CCR-M60-011321	Total/NA	Water	200.7 Rev 4.4	524297
MB 280-524297/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	524297
LCS 280-524297/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	524297
280-144787-A-1-E MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	524297
280-144787-A-1-F MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	524297

Client Sample ID: CH-CCR-M59-011321 **Lab Sample ID: 550-156601-1**
Date Collected: 01/13/21 10:34 **Matrix: Water**
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:21	LMT	TAL DEN

Client Sample ID: CH-CCR-M61-011321 **Lab Sample ID: 550-156601-2**
Date Collected: 01/13/21 11:52 **Matrix: Water**
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:24	LMT	TAL DEN

Client Sample ID: CH-CCR-M60-011321 **Lab Sample ID: 550-156601-3**
Date Collected: 01/13/21 13:00 **Matrix: Water**
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			524297	01/22/21 14:51	EAS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	524555	01/25/21 14:28	LMT	TAL DEN

Client Sample ID: CH-CCR-M57A-011321 **Lab Sample ID: 550-156601-4**
Date Collected: 01/13/21 14:35 **Matrix: Water**
Date Received: 01/18/21 15:55

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			230880	01/20/21 11:53	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		1	231219	01/22/21 13:31	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company | Job ID: 550-156601-1
Project/Site: APS - Cholla CCR | SDG: 1420182040.6048.06

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-21
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-20 *
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-21
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-21
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-21 *
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	12-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-21 *
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	02-28-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: APS - Cholla CCR

Job ID: 550-156601-1
SDG: 1420182040.6048.06

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Chain of Custody Record 479156

eurofins | Environment Testing TestAmerica

156601

Address: ______

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact		
Company Name: APS (Cholla)	Project Manager: Natalie Chrisman	Site Contact: Jim Edwards
Address: 4801 Cholla Lake Rd	Tel/Email: 602 250 3608	Lab Contact: Ken Baker
City/State/Zip: Joseph City, AZ 86032	Date: 01/18/2021	Carrier:
Phone:		
Fax:		
Project Name: Cholla CCR		
Site:		
~~PO#~~ Project # 14201820406048.06		

COC No: 1 of 1 COCs

Sampler:

For Lab Use Only:
Walk-in Client:
Lab Sampling:

Job / SDG No.:

Analysis Turnaround Time
☐ CALENDAR DAYS ☐ WORKING DAYS
TAT if different from Below ______
☐ 2 weeks
☐ 1 week
☐ 2 days
☐ 1 day

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	200.7 (Li)	200.8 (Cr)	Sample Specific Notes:
1	CH-CCR-M59-011321	01/13/21	10:34	G	W	1	N	N	X		Low Flow / BAM
2	CH-CCR-M61-011321	01/13/21	11:52	G	W	1	N	N	X		"
3	CH-CCR-M60-011321	01/13/21	13:00	G	W	1	N	N	X		"
4	CH-CCR-M57A-011321	01/13/21	14:35	G	W	1	N	N		X	Low Flow / SEDI

550-156601 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

4.0°c

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______		Therm ID No.: ______
Relinquished by: Isaac Torres	Company: Wood	Date/Time: 01/18/21 15:55	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-Phx	Date/Time: 1/18/21 15:55

CDO

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29714.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-156601-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/29/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS - Cholla CCR	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M59-011321 (550-156601-1)	1/13/21	10:34 Arizona		Water			X	1	AZ Sample
CH-CCR-M61-011321 (550-156601-2)	1/13/21	11:52 Arizona		Water			X	1	AZ Sample
CH-CCR-M60-011321 (550-156601-3)	1/13/21	13:00 Arizona		Water			X	1	AZ Sample

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Erie 01-19-21	Date/Time: 14:55	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 1/21/21 0915	Company: ETA Den
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.6°C, #9, +0.8°C HC		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156601-1
SDG Number: 1420182040.6048.06

Login Number: 156601
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156601-1
SDG Number: 1420182040.6048.06

Login Number: 156601
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver
List Creation: 01/21/21 04:49 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-162158-1
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/5/2021 11:18:53 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H1	Sample analysis performed past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Job ID: 550-162158-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-162158-1

Comments
No additional comments.

Receipt
The samples were received on 4/19/2021 10:41 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.2º C.

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: (550-162159-A-2 ^100). Elevated reporting limits (RLs) have been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-240090 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-241021 contained Thallium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.8 LL: The laboratory control sample (LCS) associated with preparation batch 550-240803 and analytical batch 550-241021 was outside acceptance criteria for Barium. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 200.8 LL: The following samples were diluted due to the nature of the sample matrix: CH-CCR-M56-0421 (550-162158-1), CH-CCR-M57-0421 (550-162158-2), CH-CCR-M58-0421 (550-162158-3), CH-CCR-M62-0421 (550-162158-4) and CH-CCR-FD02-0421 (550-162158-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 2540C: Reanalysis for Total Dissolved Solids (TDS) on the following sample was performed outside of the analytical holding time due to yielding excessive residue in the first analysis;CH-CCR-FD02-0421 (550-162158-5). The sample produced excessive residue during the first analysis in an amount that exceeded the method limit of 0.2000 g. Therefore, the laboratory performed reanalysis using a smaller sample aliquot, which occurred after the 7 day analytical holding time. The reanalysis yielded a residue amount that conformed to the method requirement, as such, the reanalysis result has been reported and qualified with an H1 flag.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-162158-1	CH-CCR-M56-0421	Water	04/14/21 08:08	04/19/21 10:41	
550-162158-2	CH-CCR-M57-0421	Water	04/14/21 09:06	04/19/21 10:41	
550-162158-3	CH-CCR-M58-0421	Water	04/14/21 09:45	04/19/21 10:41	
550-162158-4	CH-CCR-M62-0421	Water	04/14/21 07:24	04/19/21 10:41	
550-162158-5	CH-CCR-FD02-0421	Water	04/14/21 08:08	04/19/21 10:41	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Client Sample ID: CH-CCR-M56-0421 — Lab Sample ID: 550-162158-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.39	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	950	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.10		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00034	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0029	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.050		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.014	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00073	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0097	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	4200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M57-0421 — Lab Sample ID: 550-162158-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.35	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	1000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.096		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.38		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00022	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0037	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.043		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.017	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0026	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0044	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0014	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	4200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M58-0421 — Lab Sample ID: 550-162158-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.32	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	580	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.071		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.21		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	320		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00020	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0061	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.070		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0020	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00099	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	4600	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M58-0421 (Continued)
Lab Sample ID: 550-162158-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M62-0421
Lab Sample ID: 550-162158-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.29	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	650	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.092		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.21		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	460		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00027	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0052	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.063		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0012	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00028	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0041	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	5800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD02-0421
Lab Sample ID: 550-162158-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.40	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	950	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.10		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00036	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0036	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.050		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0097	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00072	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0091	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0022	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2 H1	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	7.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M56-0421

Lab Sample ID: 550-162158-1

Date Collected: 04/14/21 08:08

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	100	mg/L			04/21/21 02:12	200
Fluoride	0.39	D1 E4	0.80	0.095	mg/L			04/21/21 01:44	2
Sulfate	950	D2	400	85	mg/L			04/21/21 02:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 19:57	1
Lithium	0.10		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:40	1
Boron	0.33		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 02:02	1
Calcium	310		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:57	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00034	D1 E4	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:39	2
Arsenic	0.0029	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:39	2
Barium	0.050		0.00050	0.00026	mg/L		05/03/21 10:31	05/04/21 16:29	1
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:39	2
Chromium	0.014	D1	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:39	2
Cobalt	0.00073	D1 E4	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:39	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:39	2
Molybdenum	0.0097	D1	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:39	2
Selenium	0.0016	D1	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:39	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:39	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4200	D2	100	100	mg/L			04/20/21 08:01	1
pH	7.5	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	11.7	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample ID: CH-CCR-M57-0421

Lab Sample ID: 550-162158-2

Date Collected: 04/14/21 09:06

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	100	mg/L			04/21/21 03:06	200
Fluoride	0.35	D1 E4	0.80	0.095	mg/L			04/21/21 02:39	2
Sulfate	1000	D2	400	85	mg/L			04/21/21 03:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 02:05	1
Lithium	0.096		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:43	1
Boron	0.38		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 02:05	1
Calcium	390		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 20:01	1

Client Sample ID: CH-CCR-M57-0421

Lab Sample ID: 550-162158-2

Date Collected: 04/14/21 09:06
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00022**	**D1 E4**	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:41	2
Arsenic	**0.0037**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:41	2
Barium	**0.043**		0.00050	0.00026	mg/L		05/03/21 10:31	05/04/21 16:31	1
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:41	2
Chromium	**0.017**	**D1**	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:41	2
Cobalt	**0.0026**	**D1**	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:41	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:41	2
Molybdenum	**0.0044**	**D1**	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:41	2
Selenium	**0.0014**	**D1**	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:41	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:41	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:15	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4200**	**D2**	100	100	mg/L			04/20/21 08:01	1
pH	**7.4**	**H5**	1.7	1.7	SU			04/27/21 10:40	1
Temperature	**6.7**	**H5**	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-M58-0421

Lab Sample ID: 550-162158-3

Date Collected: 04/14/21 09:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**	**D2**	400	100	mg/L			04/21/21 04:01	200
Fluoride	**0.32**	**D1 E4**	0.80	0.095	mg/L			04/21/21 03:34	2
Sulfate	**580**	**D2**	400	85	mg/L			04/21/21 04:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 20:05	1
Lithium	**0.071**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:00	1
Boron	**0.21**		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 02:09	1
Calcium	**320**		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 20:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00020**	**D1 E4**	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:43	2
Arsenic	**0.0061**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:43	2
Barium	**0.070**		0.00050	0.00026	mg/L		05/03/21 10:31	05/04/21 16:33	1
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:43	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:43	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:43	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:43	2
Molybdenum	**0.0020**	**D1**	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:43	2
Selenium	**0.00099**	**D1 E4**	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:43	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:43	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Client Sample ID: CH-CCR-M58-0421

Lab Sample ID: 550-162158-3
Date Collected: 04/14/21 09:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4600**	**D2**	100	100	mg/L			04/21/21 08:29	1
pH	**7.7**	**H5**	1.7	1.7	SU			04/27/21 10:40	1
Temperature	**7.0**	**H5**	0.1	0.1	Degrees C			04/27/21 10:40	1

Client Sample ID: CH-CCR-M62-0421

Lab Sample ID: 550-162158-4
Date Collected: 04/14/21 07:24
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**	**D2**	400	100	mg/L			04/21/21 04:56	200
Fluoride	**0.29**	**D1 E4**	0.80	0.095	mg/L			04/21/21 04:29	2
Sulfate	**650**	**D2**	400	85	mg/L			04/21/21 04:56	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 02:13	1
Lithium	**0.092**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:03	1
Boron	**0.21**		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 02:13	1
Calcium	**460**		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 20:09	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00027**	**D1 E4**	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:45	2
Arsenic	**0.0052**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:45	2
Barium	**0.063**		0.00050	0.00026	mg/L		05/03/21 10:31	05/04/21 16:35	1
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:45	2
Chromium	**0.0012**	**D1 E4**	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:45	2
Cobalt	**0.00028**	**D1 E4**	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:45	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:45	2
Molybdenum	**0.0041**	**D1**	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:45	2
Selenium	**0.0016**	**D1**	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:45	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**5800**	**D2**	100	100	mg/L			04/21/21 08:29	1
pH	**7.6**	**H5**	1.7	1.7	SU			04/27/21 10:40	1
Temperature	**6.9**	**H5**	0.1	0.1	Degrees C			04/27/21 10:40	1

Client: Arizona Public Service Company
Job ID: 550-162158-1
Project/Site: CCR Groundwater Monitoring

Client Sample ID: CH-CCR-FD02-0421
Lab Sample ID: 550-162158-5
Date Collected: 04/14/21 08:08
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	100	mg/L			04/21/21 05:51	200
Fluoride	0.40	D1 E4	0.80	0.095	mg/L			04/21/21 05:23	2
Sulfate	950	D2	400	85	mg/L			04/21/21 05:51	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 02:17	1
Lithium	0.10		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:06	1
Boron	0.33		0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 02:17	1
Calcium	310		2.0	0.013	mg/L		04/20/21 19:18	04/22/21 20:12	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00036	D1 E4	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:48	2
Arsenic	0.0036	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:48	2
Barium	0.050		0.00050	0.00026	mg/L		05/03/21 10:31	05/04/21 16:37	1
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:48	2
Chromium	0.0097	D1	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:48	2
Cobalt	0.00072	D1 E4	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:48	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:48	2
Molybdenum	0.0091	D1	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:48	2
Selenium	0.0022	D1	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:48	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:48	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6900	D2 H1	1000	1000	mg/L			04/26/21 09:11	1
pH	7.7	H5	1.7	1.7	SU			04/27/21 10:40	1
Temperature	7.1	H5	0.1	0.1	Degrees C			04/27/21 10:40	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-239974/1030
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 00:22	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 00:22	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 00:22	1

Lab Sample ID: LCS 550-239974/31
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCS 550-239974/5
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.0		mg/L		105	90 - 110
Fluoride	4.00	4.14		mg/L		104	90 - 110
Sulfate	20.0	20.7		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-239974/32
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	2	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	1	20
Sulfate	20.0	20.7		mg/L		103	90 - 110	2	20

Lab Sample ID: LCSD 550-239974/6
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.1		mg/L		105	90 - 110	2	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	2	20
Sulfate	20.0	20.7		mg/L		104	90 - 110	2	20

Lab Sample ID: 550-162159-A-2 MS ^100
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1200	D2	2000	3520	D2	mg/L		114	80 - 120
Fluoride	ND	E8 D1 D5	400	414	D1	mg/L		104	80 - 120
Sulfate	340	D2	2000	2410	D2	mg/L		104	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-162159-A-2 MSD ^100
Matrix: Water
Analysis Batch: 239974

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1200	D2	2000	3520	D2	mg/L		114	80 - 120	0	20
Fluoride	ND	E8 D1 D5	400	415	D1	mg/L		104	80 - 120	0	20
Sulfate	340	D2	2000	2420	D2	mg/L		104	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-239917/1-A
Matrix: Water
Analysis Batch: 240090

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00262	E4	0.050	0.0025	mg/L		04/20/21 19:18	04/22/21 01:24	1

Lab Sample ID: MB 550-239917/1-A
Matrix: Water
Analysis Batch: 240217

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239917

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 19:18	04/22/21 19:19	1
Calcium	ND	E8	2.0	0.013	mg/L		04/20/21 19:18	04/22/21 19:19	1

Lab Sample ID: LCS 550-239917/2-A
Matrix: Water
Analysis Batch: 240090

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.974		mg/L		97	85 - 115

Lab Sample ID: LCS 550-239917/2-A
Matrix: Water
Analysis Batch: 240217

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.992		mg/L		99	85 - 115
Calcium	21.0	20.5		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-239917/3-A
Matrix: Water
Analysis Batch: 240090

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.982		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-239917/3-A
Matrix: Water
Analysis Batch: 240217

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239917

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.985		mg/L		98	85 - 115	1	20
Calcium	21.0	20.3		mg/L		97	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-162159-F-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240090 — **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.49		1.00	1.46		mg/L		97	70 - 130

Lab Sample ID: 550-162159-F-2-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240217 — **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00013	E4	1.00	1.02		mg/L		102	70 - 130
Calcium	87		21.0	102	M3	mg/L		70	70 - 130

Lab Sample ID: 550-162159-F-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240090 — **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.49		1.00	1.50		mg/L		101	70 - 130	3	20

Lab Sample ID: 550-162159-F-2-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240217 — **Prep Batch: 239917**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00013	E4	1.00	1.06		mg/L		106	70 - 130	5	20
Calcium	87		21.0	107	M3	mg/L		95	70 - 130	5	20

Lab Sample ID: MB 280-534431/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534781 — **Prep Batch: 534431**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:16	1

Lab Sample ID: LCS 280-534431/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534781 — **Prep Batch: 534431**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.02		mg/L		102	90 - 112

Lab Sample ID: 550-162157-G-5-F MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534781 — **Prep Batch: 534431**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.26		1.00	1.45		mg/L		118	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-162157-G-5-G MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 534781 — **Prep Batch: 534431**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.26		1.00	1.39		mg/L		113	70 - 130	4	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-240803/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 241021 — **Prep Batch: 240803**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000186	E4	0.0010	0.000043	mg/L		04/29/21 07:01	04/30/21 07:10	1
Arsenic	0.000328	E4	0.00050	0.00025	mg/L		04/29/21 07:01	04/30/21 07:10	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/29/21 07:01	04/30/21 07:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/29/21 07:01	04/30/21 07:10	1
Cobalt	0.0000750	E4	0.00050	0.000063	mg/L		04/29/21 07:01	04/30/21 07:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/29/21 07:01	04/30/21 07:10	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/29/21 07:01	04/30/21 07:10	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/29/21 07:01	04/30/21 07:10	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/29/21 07:01	04/30/21 07:10	1

Lab Sample ID: LCS 550-240803/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 241021 — **Prep Batch: 240803**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.109		mg/L		109	85 - 115
Arsenic	0.100	0.110		mg/L		110	85 - 115
Cadmium	0.100	0.109		mg/L		109	85 - 115
Chromium	0.100	0.113		mg/L		113	85 - 115
Cobalt	0.100	0.111		mg/L		111	85 - 115
Lead	0.100	0.114		mg/L		114	85 - 115
Molybdenum	0.100	0.110		mg/L		110	85 - 115
Selenium	0.100	0.111		mg/L		111	85 - 115
Thallium	0.100	0.112		mg/L		112	85 - 115

Lab Sample ID: LCSD 550-240803/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 241021 — **Prep Batch: 240803**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.106		mg/L		106	85 - 115	3	20
Arsenic	0.100	0.105		mg/L		105	85 - 115	5	20
Cadmium	0.100	0.105		mg/L		105	85 - 115	3	20
Chromium	0.100	0.108		mg/L		108	85 - 115	4	20
Cobalt	0.100	0.107		mg/L		107	85 - 115	4	20
Lead	0.100	0.109		mg/L		109	85 - 115	4	20
Molybdenum	0.100	0.107		mg/L		107	85 - 115	3	20
Selenium	0.100	0.105		mg/L		105	85 - 115	5	20
Thallium	0.100	0.103		mg/L		103	85 - 115	9	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-162220-D-1-C MS
Matrix: Water
Analysis Batch: 241021

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00018	E4	0.100	0.0917		mg/L		92	70 - 130
Arsenic	0.0053		0.100	0.0938		mg/L		88	70 - 130
Cadmium	ND	E8	0.100	0.0871		mg/L		87	70 - 130
Chromium	0.018		0.100	0.104		mg/L		86	70 - 130
Cobalt	0.000063	E4	0.100	0.0868		mg/L		87	70 - 130
Lead	ND	E8	0.100	0.0865		mg/L		87	70 - 130
Molybdenum	0.0018		0.100	0.0933		mg/L		92	70 - 130
Selenium	0.00085		0.100	0.0911		mg/L		90	70 - 130
Thallium	0.00020		0.100	0.0837		mg/L		84	70 - 130

Lab Sample ID: 550-162220-D-1-D MSD
Matrix: Water
Analysis Batch: 241021

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00018	E4	0.100	0.104		mg/L		104	70 - 130	13	20
Arsenic	0.0053		0.100	0.108		mg/L		103	70 - 130	14	20
Cadmium	ND	E8	0.100	0.0996		mg/L		100	70 - 130	13	20
Chromium	0.018		0.100	0.120		mg/L		102	70 - 130	14	20
Cobalt	0.000063	E4	0.100	0.100		mg/L		100	70 - 130	14	20
Lead	ND	E8	0.100	0.101		mg/L		101	70 - 130	16	20
Molybdenum	0.0018		0.100	0.106		mg/L		104	70 - 130	13	20
Selenium	0.00085		0.100	0.105		mg/L		105	70 - 130	15	20
Thallium	0.00020		0.100	0.0996		mg/L		99	70 - 130	17	20

Lab Sample ID: MB 550-241181/1-A
Matrix: Water
Analysis Batch: 241360

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 241181

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		05/03/21 09:15	05/04/21 15:35	1

Lab Sample ID: LCS 550-241181/2-A
Matrix: Water
Analysis Batch: 241360

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 241181

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-241181/3-A
Matrix: Water
Analysis Batch: 241360

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 241181

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.100	0.115		mg/L		115	85 - 115	13	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-162883-F-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 241360 — **Prep Batch: 241181**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.29		0.100	0.391		mg/L		104	70 - 130

Lab Sample ID: 550-162883-F-1-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 241360 — **Prep Batch: 241181**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.29		0.100	0.393		mg/L		107	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-240599/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240623 — **Prep Batch: 240599**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:00	1

Lab Sample ID: LCS 550-240599/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240623 — **Prep Batch: 240599**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00494		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-240599/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240623 — **Prep Batch: 240599**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00500		mg/L		100	85 - 115	1	20

Lab Sample ID: 550-162000-T-1-B MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240623 — **Prep Batch: 240599**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00488		mg/L		98	70 - 130

Lab Sample ID: 550-162000-T-1-C MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 240623 — **Prep Batch: 240599**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00492		mg/L		98	70 - 130	1	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-239805/1
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239805

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/20/21 08:01	1

Lab Sample ID: LCS 550-239805/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239805

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	970		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-239805/3
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239805

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	944		mg/L		94	90 - 110	3	10

Lab Sample ID: 550-161899-A-1 DU
Client Sample ID: Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239805

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1100		1140		mg/L		2	10

Lab Sample ID: MB 550-239952/1
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239952

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/21/21 08:29	1

Lab Sample ID: LCS 550-239952/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239952

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	970		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-239952/3
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239952

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	4	10

Lab Sample ID: 550-162158-3 DU
Client Sample ID: CH-CCR-M58-0421
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 239952

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	4600	D2	4420	D2	mg/L		4	10

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-240411/1
Matrix: Water
Analysis Batch: 240411

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/26/21 09:11	1

Lab Sample ID: LCS 550-240411/2
Matrix: Water
Analysis Batch: 240411

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1030		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-240411/3
Matrix: Water
Analysis Batch: 240411

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-162158-5 DU
Matrix: Water
Analysis Batch: 240411

Client Sample ID: CH-CCR-FD02-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6900	H1 D2	7100	D2	mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-240071/49
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/61
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: 550-162152-E-40 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	H5	7.3	H5	SU		0.4	5
Temperature	17.8	H5	17.5	H5	Degrees C		2	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-240533/1
Matrix: Water
Analysis Batch: 240533
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240533/12
Matrix: Water
Analysis Batch: 240533
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.3	98.5 - 101.5

Lab Sample ID: 550-162159-B-2 DU
Matrix: Water
Analysis Batch: 240533
Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.7	H5	SU		0.9	5
Temperature	7.1	H5	7.2	H5	Degrees C		1	

HPLC/IC

Analysis Batch: 239974

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	300.0	
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	300.0	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	300.0	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	300.0	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	300.0	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	300.0	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	300.0	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	300.0	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	300.0	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	300.0	
MB 550-239974/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-239974/31	Lab Control Sample	Total/NA	Water	300.0	
LCS 550-239974/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239974/32	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 550-239974/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162159-A-2 MS ^100	Matrix Spike	Total/NA	Water	300.0	
550-162159-A-2 MSD ^100	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 239917

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.7	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.7	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.7	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.7	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.7	
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162159-F-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-162159-F-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 240090

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.7 Rev 4.4	239917
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239917
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239917
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-F-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-F-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239917

Analysis Batch: 240217

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.7 Rev 4.4	239917

Metals (Continued)

Analysis Batch: 240217 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.7 Rev 4.4	239917
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.7 Rev 4.4	239917
MB 550-239917/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239917
LCS 550-239917/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239917
LCSD 550-239917/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-F-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239917
550-162159-F-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239917

Prep Batch: 240599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	245.1	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	245.1	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	245.1	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	245.1	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	245.1	
MB 550-240599/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-240599/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-240599/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-162000-T-1-B MS	Matrix Spike	Total/NA	Water	245.1	
550-162000-T-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 240623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	245.1	240599
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	245.1	240599
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	245.1	240599
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	245.1	240599
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	245.1	240599
MB 550-240599/1-A	Method Blank	Total/NA	Water	245.1	240599
LCS 550-240599/2-A	Lab Control Sample	Total/NA	Water	245.1	240599
LCSD 550-240599/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	240599
550-162000-T-1-B MS	Matrix Spike	Total/NA	Water	245.1	240599
550-162000-T-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	240599

Prep Batch: 240803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.8	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.8	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.8	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.8	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.8	
MB 550-240803/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-240803/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-240803/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162220-D-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-162220-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 241021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.8 LL	240803
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.8 LL	240803

Metals (Continued)

Analysis Batch: 241021 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.8 LL	240803
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.8 LL	240803
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.8 LL	240803
MB 550-240803/1-A	Method Blank	Total/NA	Water	200.8 LL	240803
LCS 550-240803/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	240803
LCSD 550-240803/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	240803
550-162220-D-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	240803
550-162220-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	240803

Prep Batch: 241181

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.8	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.8	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.8	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.8	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.8	
MB 550-241181/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-241181/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-241181/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162883-F-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-162883-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 241360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.8 LL	241181
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.8 LL	241181
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.8 LL	241181
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.8 LL	241181
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.8 LL	241181
MB 550-241181/1-A	Method Blank	Total/NA	Water	200.8 LL	241181
LCS 550-241181/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	241181
LCSD 550-241181/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	241181
550-162883-F-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	241181
550-162883-F-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	241181

Prep Batch: 534431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.7	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.7	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.7	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.7	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.7	
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-G-5-F MS	Matrix Spike	Total/NA	Water	200.7	
550-162157-G-5-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 534781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	200.7 Rev 4.4	534431

Metals (Continued)

Analysis Batch: 534781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	200.7 Rev 4.4	534431
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534431
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-G-5-F MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-G-5-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	534431

General Chemistry

Analysis Batch: 239805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	SM 2540C	
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	SM 2540C	
MB 550-239805/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-239805/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-239805/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-161899-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 239952

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	SM 2540C	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	SM 2540C	
MB 550-239952/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-239952/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-239952/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162158-3 DU	CH-CCR-M58-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-1	CH-CCR-M56-0421	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-162152-E-40 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 240411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	SM 2540C	
MB 550-240411/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240411/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240411/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162158-5 DU	CH-CCR-FD02-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162158-2	CH-CCR-M57-0421	Total/NA	Water	SM 4500 H+ B	
550-162158-3	CH-CCR-M58-0421	Total/NA	Water	SM 4500 H+ B	
550-162158-4	CH-CCR-M62-0421	Total/NA	Water	SM 4500 H+ B	
550-162158-5	CH-CCR-FD02-0421	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240533/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240533/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

General Chemistry (Continued)

Analysis Batch: 240533 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162159-B-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Client Sample ID: CH-CCR-M56-0421

Lab Sample ID: 550-162158-1

Date Collected: 04/14/21 08:08
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 01:44	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 02:12	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 02:02	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 19:57	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:40	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:39	MGM	TAL PHX
Total/NA	Prep	200.8			241181	05/03/21 10:31	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	241360	05/04/21 16:29	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:14	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-M57-0421

Lab Sample ID: 550-162158-2

Date Collected: 04/14/21 09:06
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 02:39	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 03:06	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 02:05	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 20:01	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:43	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:41	MGM	TAL PHX
Total/NA	Prep	200.8			241181	05/03/21 10:31	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	241360	05/04/21 16:31	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:15	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-M58-0421
Lab Sample ID: 550-162158-3

Date Collected: 04/14/21 09:45
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 03:34	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 04:01	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 02:09	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 20:05	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:00	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:43	MGM	TAL PHX
Total/NA	Prep	200.8			241181	05/03/21 10:31	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	241360	05/04/21 16:33	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:17	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239952		YET	TAL PHX
					(Start)	04/21/21 08:29		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client Sample ID: CH-CCR-M62-0421
Lab Sample ID: 550-162158-4

Date Collected: 04/14/21 07:24
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 04:29	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 04:56	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 02:13	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 20:09	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:03	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:45	MGM	TAL PHX
Total/NA	Prep	200.8			241181	05/03/21 10:31	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	241360	05/04/21 16:35	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:18	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239952		YET	TAL PHX
					(Start)	04/21/21 08:29		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Client Sample ID: CH-CCR-FD02-0421
Date Collected: 04/14/21 08:08
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162158-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239974	04/21/21 05:23	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239974	04/21/21 05:51	JRP	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240090	04/22/21 02:17	MGM	TAL PHX
Total/NA	Prep	200.7			239917	04/20/21 19:18	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240217	04/22/21 20:12	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:06	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:48	MGM	TAL PHX
Total/NA	Prep	200.8			241181	05/03/21 10:31	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	241360	05/04/21 16:37	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:20	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	240411		YET	TAL PHX
					(Start)	04/26/21 09:11		
					(End)	04/27/21 11:00		
Total/NA	Analysis	SM 4500 H+ B		1	240533	04/27/21 10:40	SGO	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162158-1

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21 *
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

162158

Chain of Custody Record

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

TestAme
THE LEADER IN ENVIRONM

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Lab

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific
-1	CH-CCR-M56-0421	4/14/2021	08:08	G	W	2	N	N	X	X	X	X	X	X	Low Flow
-2	CH-CCR-M57-0421	4/14/2021	09:06	G	W	2	N	N	X	X	X	X	X	X	"
-3	CH-CCR-M58-0421	4/14/2021	09:45	G	W	2	N	N	X	X	X	X	X	X	"
-4	CH-CCR-M62-0421	4/14/2021	07:24	G	W	2	N	N	X	X	X	X	X	X	"
-5	CH-CCR-FD02-0421	4/14/2021	08:08	G	W	2	N	N	X	X	X	X	X	X	Low Flow, Field Dupe
	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	3	1	1	3	3	

550-162158 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

4.2

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______		Therm ID No.: ______
Relinquished by: Marin Woolley	Company: Wood	Date/Time: 4/19/21 10:41	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 4/19/21 10:41

Form No. CA-C-WI-002, Rev. 4.2, dat

CDD

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-30727.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-162158-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M56-0421 (550-162158-1)	4/14/21	08:08 Arizona		Water			X	1	AZ Sample
CH-CCR-M57-0421 (550-162158-2)	4/14/21	09:06 Arizona		Water			X	1	AZ Sample
CH-CCR-M58-0421 (550-162158-3)	4/14/21	09:45 Arizona		Water			X	1	AZ Sample
CH-CCR-M62-0421 (550-162158-4)	4/14/21	07:24 Arizona		Water			X	1	AZ Sample
CH-CCR-FD02-0421 (550-162158-5)	4/14/21	08:08 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Eric	Date/Time: 04-27-21 16:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company
Relinquished by: FEDEX	Date/Time:	Company	Received by: [illegible]	Date/Time: 04/29/21 1045	Company: ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.6, IR11, CF+0.4, DW2, 04/29/21		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company | Job Number: 550-162158-1

Login Number: 162158
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162158-1

Login Number: 162158
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver
List Creation: 04/29/21 06:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M56-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

April 14, 2021 | 8:08 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person: ______

Owner/Contact Fax Number: ______

Owner/Contact Phone Number: ______

Sample Collection Point
☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______
☐ Quarterly — Date Q2 collected: ______
☐ Composite of four quarterly samples — Date Q3 collected: ______
Date Q4 collected: ______

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66551
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M56-0421
Authorized Signature:
Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M57-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 14, 2021 — Sample Date 9:06 — Sample Time (24 hour clock) ____________ Owner/Contact Person

____________ Owner/Contact Fax Number ____________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring Date Q1 collected: ____________
☐ Quarterly Date Q2 collected: ____________
☐ Composite of four quarterly samples Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66552
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M57-0421
Authorized Signature:
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M58-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE — Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 14, 2021 — Sample Date
9:45 — Sample Time (24 hour clock)

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________
☐ Quarterly — Date Q2 collected: ____________
☐ Composite of four quarterly samples — Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66553
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M58-0421
Authorized Signature:
Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M62-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 14, 2021 — Sample Date
7:24 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________
☐ Quarterly — Date Q2 collected: ______________
☐ Composite of four quarterly samples — Date Q3 collected: ______________
Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66554
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M62-0421
Authorized Signature:
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD02-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 14, 2021 — Sample Date

8:08 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66555

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD02-0421

Authorized Signature:

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street — Chandler, Arizona 85225

Analysis Request

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (SEDI)**

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-M56-0421	4/14/2021	8:08	**GW**						**X**	**X**	**X**					66551
CH-CCR-M57-0421	4/14/2021	9:06	**GW**						**X**	**X**	**X**					66552
CH-CCR-M58-0421	4/14/2021	9:45	**GW**						**X**	**X**	**X**					66553
CH-CCR-M62-0421	4/14/2021	7:24	**GW**						**X**	**X**	**X**					66554
CH-CCR-FD02-0421	4/14/2021	8:08	**GW**						**X**	**X**	**X**					66555

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			**Method HPGe**
Chain of Custody Seals			**PO #: 300588231**
Container Condition			
Lab No.			

Relinquished By: [signature]	Company: Wood	Date/time: 4/29/21 12:15	Received By: Pat Flannery	Company: RSE	Date/time: 4-29-21 12:10
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-168310-1
Laboratory SDG: APS Cholla Power Plant (SEDI)
Client Project/Site: CCR Replacement Well Sampling

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
8/20/2021 2:53:33 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-168310-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-168310-1

Comments
No additional comments.

Receipt
The samples were received on 8/4/2021 10:54 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.3º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-168310-1	CH-CCR-CR1R-0821	Water	08/02/21 10:02	08/04/21 10:54
550-168310-2	CH-CCR-DUP01-0821	Water	08/02/21 10:02	08/04/21 10:54

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Client Sample ID: CH-CCR-CR1R-0821 — Lab Sample ID: 550-168310-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	640	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.41	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	250	D2	200	43	mg/L	100		300.0	Total/NA
Beryllium	0.00096	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.036		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000088	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00075		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.094		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000078	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00048	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0042		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Thallium	0.000074	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-DUP01-0821 — Lab Sample ID: 550-168310-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	620	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.40	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	260	D2	200	43	mg/L	100		300.0	Total/NA
Beryllium	0.00026	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.035		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000064	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00073		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.090		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0038		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Thallium	0.000022	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-CR1R-0821

Date Collected: 08/02/21 10:02
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168310-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	640	D2	400	100	mg/L			08/09/21 20:34	200
Fluoride	0.41	D1 E4	0.80	0.095	mg/L			08/09/21 20:15	2
Sulfate	250	D2	200	43	mg/L			08/11/21 19:23	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00096	E4	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 17:52	1
Lithium	0.036		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:33	1
Boron	0.15		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:26	1
Calcium	120		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:42	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000088	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:18	1
Arsenic	0.00075		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:18	1
Barium	0.094		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:18	1
Cadmium	0.000078	E4	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:18	1
Chromium	0.00048	E4	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:18	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:18	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:18	1
Molybdenum	0.0042		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:18	1
Selenium	ND	E8	0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:18	1
Thallium	0.000074	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:18	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		20	20	mg/L			08/05/21 08:58	1
pH	7.9	H5	1.7	1.7	SU			08/05/21 18:50	1
Temperature	8.1	H5	0.1	0.1	Degrees C			08/05/21 18:50	1

Client Sample ID: CH-CCR-DUP01-0821

Date Collected: 08/02/21 10:02
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168310-2
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	620	D2	400	100	mg/L			08/09/21 21:10	200
Fluoride	0.40	D1 E4	0.80	0.095	mg/L			08/09/21 20:52	2
Sulfate	260	D2	200	43	mg/L			08/11/21 20:18	100

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00026	E4	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 17:55	1
Lithium	0.035		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:36	1
Boron	0.15		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:28	1
Calcium	120		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:44	1

Client Sample ID: CH-CCR-DUP01-0821

Date Collected: 08/02/21 10:02
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168310-2

Matrix: Water

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.000064**	**E4**	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:20	1
Arsenic	**0.00073**		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:20	1
Barium	**0.090**		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:20	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:20	1
Chromium	ND	E8	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:20	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:20	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:20	1
Molybdenum	**0.0038**		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:20	1
Selenium	ND	E8	0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:20	1
Thallium	**0.000022**	**E4**	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:20	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:43	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1800**		20	20	mg/L			08/05/21 08:58	1
pH	**7.9**	**H5**	1.7	1.7	SU			08/05/21 18:50	1
Temperature	**10.5**	**H5**	0.1	0.1	Degrees C			08/05/21 18:50	1

QC Sample Results

Client: Arizona Public Service Company | Job ID: 550-168310-1
Project/Site: CCR Replacement Well Sampling | SDG: APS Cholla Power Plant (SEDI)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-250142/2 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/09/21 12:29	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/09/21 12:29	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/09/21 12:29	1

Lab Sample ID: LCS 550-250142/5 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	4.06		mg/L		102	90 - 110
Sulfate	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-250142/6 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	4.06		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.3		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-168017-D-1 MS | **Client Sample ID: Matrix Spike**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	110	E2	20.0	130	E2 M3	mg/L		96	80 - 120
Fluoride	0.38	E4 M1	4.00	6.17	M1	mg/L		145	80 - 120
Sulfate	39	M1	20.0	67.0	M1	mg/L		142	80 - 120

Lab Sample ID: 550-168017-D-1 MSD | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250142

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110	E2	20.0	128	E2 M3	mg/L		87	80 - 120	1	20
Fluoride	0.38	E4 M1	4.00	5.85	M1	mg/L		137	80 - 120	5	20
Sulfate	39	M1	20.0	64.8	M1	mg/L		131	80 - 120	3	20

Lab Sample ID: MB 550-250340/2 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 250340

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/11/21 13:00	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/11/21 13:00	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/11/21 13:00	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-250340/5
Matrix: Water
Analysis Batch: 250340

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.09		mg/L		102	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-250340/6
Matrix: Water
Analysis Batch: 250340

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.5		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-168761-E-9 MS
Matrix: Water
Analysis Batch: 250340

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	500	E2 M3	20.0	499	E2 M3	mg/L		-24	80 - 120
Fluoride	1.1		4.00	5.34		mg/L		106	80 - 120
Sulfate	760	E2 M3	20.0	750	E2 M3	mg/L		-53	80 - 120

Lab Sample ID: 550-168761-E-9 MSD
Matrix: Water
Analysis Batch: 250340

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	500	E2 M3	20.0	499	E2 M3	mg/L		-24	80 - 120	0	20
Fluoride	1.1		4.00	5.19		mg/L		102	80 - 120	3	20
Sulfate	760	E2 M3	20.0	750	E2 M3	mg/L		-54	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/11/21 08:32	1

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:28	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:12	1

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.965		mg/L		96	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	20.0		mg/L		95	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.968		mg/L		97	85 - 115	0	20

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	20.0		mg/L		95	85 - 115	0	20

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.02		mg/L		102	85 - 115	2	20

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00052	E4	1.00	0.971		mg/L		97	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250228
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.2	L3	1.00	2.53		mg/L		129	70 - 130

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250358
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	120	M3	21.0	703	M3	mg/L		2787	70 - 130

Lab Sample ID: 550-168321-C-5-A MS
Matrix: Water
Analysis Batch: 250429
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.34		1.00	1.43		mg/L		108	70 - 130

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250228
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00052	E4	1.00	1.05		mg/L		105	70 - 130	8	20
Boron	1.2	L3	1.00	2.40		mg/L		116	70 - 130	5	20

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250358
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	120	M3	21.0	726	M3	mg/L		2896	70 - 130	3	20

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250429
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.34		1.00	1.41		mg/L		107	70 - 130	1	20

Lab Sample ID: MB 280-545884/1-A
Matrix: Water
Analysis Batch: 546124
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545884

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 10:30	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-545884/2-A
Matrix: Water
Analysis Batch: 546124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545884

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium			1.00	1.04		mg/L		104	90 - 112		

Lab Sample ID: 280-151618-G-1-B MS
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130		

Lab Sample ID: 280-151618-G-1-C MSD
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130	0	20

Lab Sample ID: 280-151647-A-1-B MS
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.010	E4	1.00	1.21		mg/L		120	70 - 130		

Lab Sample ID: 280-151647-A-1-C MSD
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.010	E4	1.00	1.20		mg/L		119	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-249890/1-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249890

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000790	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Arsenic	0.000341	E4	0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:07	1
Barium	ND	E8	0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:07	1
Chromium	ND	E8	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:07	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:07	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:07	1
Selenium	ND	E8	0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:07	1
Thallium	0.0000250	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:07	1

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-249890/2-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.105		mg/L		105	85 - 115
Arsenic	0.100	0.103		mg/L		103	85 - 115
Barium	0.100	0.113		mg/L		113	85 - 115
Cadmium	0.100	0.107		mg/L		107	85 - 115
Chromium	0.100	0.109		mg/L		109	85 - 115
Cobalt	0.100	0.114		mg/L		114	85 - 115
Lead	0.100	0.108		mg/L		108	85 - 115
Molybdenum	0.100	0.112		mg/L		112	85 - 115
Selenium	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.108		mg/L		108	85 - 115

Lab Sample ID: LCSD 550-249890/3-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.104		mg/L		104	85 - 115	1	20
Arsenic	0.100	0.101		mg/L		101	85 - 115	3	20
Barium	0.100	0.111		mg/L		111	85 - 115	2	20
Cadmium	0.100	0.106		mg/L		106	85 - 115	1	20
Chromium	0.100	0.105		mg/L		105	85 - 115	4	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	5	20
Lead	0.100	0.108		mg/L		108	85 - 115	0	20
Molybdenum	0.100	0.110		mg/L		110	85 - 115	2	20
Selenium	0.100	0.0969		mg/L		97	85 - 115	3	20
Thallium	0.100	0.110		mg/L		110	85 - 115	2	20

Lab Sample ID: 550-168310-1 MS
Matrix: Water
Analysis Batch: 251013

Client Sample ID: CH-CCR-CR1R-0821
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000088	E4	0.100	0.103		mg/L		103	70 - 130
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130
Barium	0.094		0.100	0.213		mg/L		119	70 - 130
Cadmium	0.000078	E4	0.100	0.0984		mg/L		98	70 - 130
Chromium	0.00048	E4	0.100	0.102		mg/L		102	70 - 130
Cobalt	ND	E8	0.100	0.105		mg/L		105	70 - 130
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130
Molybdenum	0.0042		0.100	0.113		mg/L		109	70 - 130
Selenium	ND	E8	0.100	0.0976		mg/L		98	70 - 130
Thallium	0.000074	E4	0.100	0.0972		mg/L		97	70 - 130

Lab Sample ID: 550-168310-1 MSD
Matrix: Water
Analysis Batch: 251013

Client Sample ID: CH-CCR-CR1R-0821
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000088	E4	0.100	0.102		mg/L		102	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-168310-1 MSD
Matrix: Water
Analysis Batch: 251013

Client Sample ID: CH-CCR-CR1R-0821
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130	0	20
Barium	0.094		0.100	0.209		mg/L		116	70 - 130	2	20
Cadmium	0.000078	E4	0.100	0.0968		mg/L		97	70 - 130	2	20
Chromium	0.00048	E4	0.100	0.101		mg/L		100	70 - 130	2	20
Cobalt	ND	E8	0.100	0.104		mg/L		104	70 - 130	1	20
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130	0	20
Molybdenum	0.0042		0.100	0.110		mg/L		105	70 - 130	3	20
Selenium	ND	E8	0.100	0.0982		mg/L		98	70 - 130	1	20
Thallium	0.000074	E4	0.100	0.0994		mg/L		99	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-249943/1-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:14	1

Lab Sample ID: LCS 550-249943/2-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00439		mg/L		88	85 - 115

Lab Sample ID: LCSD 550-249943/3-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00460		mg/L		92	85 - 115	5	20

Lab Sample ID: 550-168118-B-1-C MS
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00460		mg/L		92	70 - 130

Lab Sample ID: 550-168118-B-1-D MSD
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00456		mg/L		91	70 - 130	1	20

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-249705/1
Matrix: Water
Analysis Batch: 249705

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			08/05/21 08:58	1

Lab Sample ID: LCS 550-249705/2
Matrix: Water
Analysis Batch: 249705

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-249705/3
Matrix: Water
Analysis Batch: 249705

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10

Lab Sample ID: 550-168321-A-5 DU
Matrix: Water
Analysis Batch: 249705

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7200	D2	7000	D2	mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-249873/13
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.3	98.5 - 101.5

Lab Sample ID: LCSSRM 550-249873/25
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.3	98.5 - 101.5

Lab Sample ID: LCSSRM 550-249873/37
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-168209-A-1 DU
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.1	H5	8.1	H5	SU		0.1	5
Temperature	6.8	H5	6.9	H5	Degrees C		1	

Lab Sample ID: 550-168310-2 DU
Matrix: Water
Analysis Batch: 249873

Client Sample ID: CH-CCR-DUP01-0821
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	H5	7.9	H5	SU		0	5
Temperature	10.5	H5	10.5	H5	Degrees C		0	

HPLC/IC

Analysis Batch: 250142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	300.0	
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	300.0	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	300.0	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	300.0	
MB 550-250142/2	Method Blank	Total/NA	Water	300.0	
LCS 550-250142/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250142/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168017-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-168017-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 250340

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	300.0	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	300.0	
MB 550-250340/2	Method Blank	Total/NA	Water	300.0	
LCS 550-250340/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250340/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168761-E-9 MS	Matrix Spike	Total/NA	Water	300.0	
550-168761-E-9 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 249879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7	
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7	
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 249890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.8	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.8	
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-168310-1 MS	CH-CCR-CR1R-0821	Total/NA	Water	200.8	
550-168310-1 MSD	CH-CCR-CR1R-0821	Total/NA	Water	200.8	

Prep Batch: 249943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	245.1	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	245.1	
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Metals

Analysis Batch: 249965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	245.1	249943
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	245.1	249943
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	249943
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	249943
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	249943
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	249943
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	249943

Analysis Batch: 250228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 251013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.8 LL	249890
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.8 LL	249890
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8 LL	249890
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249890
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249890
550-168310-1 MS	CH-CCR-CR1R-0821	Total/NA	Water	200.8 LL	249890
550-168310-1 MSD	CH-CCR-CR1R-0821	Total/NA	Water	200.8 LL	249890

Prep Batch: 545884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 545884 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7	
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 546084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	200.7 Rev 4.4	545884
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884

Analysis Batch: 546124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	545884
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	545884

General Chemistry

Analysis Batch: 249705

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	SM 2540C	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	SM 2540C	
MB 550-249705/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-249705/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-249705/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-168321-A-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 249873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168310-1	CH-CCR-CR1R-0821	Total/NA	Water	SM 4500 H+ B	
550-168310-2	CH-CCR-DUP01-0821	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-168209-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-168310-2 DU	CH-CCR-DUP01-0821	Total/NA	Water	SM 4500 H+ B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168310-1
SDG: APS Cholla Power Plant (SEDI)

Client Sample ID: CH-CCR-CR1R-0821

Lab Sample ID: 550-168310-1

Date Collected: 08/02/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 20:15	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 20:34	JNW	TAL PHX
Total/NA	Analysis	300.0		100	250340	08/11/21 19:23	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 17:52	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:42	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:26	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:33	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:18	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:41	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	249705		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Client Sample ID: CH-CCR-DUP01-0821

Lab Sample ID: 550-168310-2

Date Collected: 08/02/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 20:52	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 21:10	JNW	TAL PHX
Total/NA	Analysis	300.0		100	250340	08/11/21 20:18	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 17:55	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:44	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:28	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:36	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:20	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:43	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	249705		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Job ID: 550-168310-1

Project/Site: CCR Replacement Well Sampling
SDG: APS Cholla Power Plant (SEDI)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	08-01-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

168310

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
4801 Cholla Lake Rd	**Analysis Turnaround Time**		
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS		
(928) 587-0319 Phone	TAT if different from Below ____		
FAX	☑ 2 weeks		
Project Name: CCR Replacement Well Sampling	☐ 1 week		
Site: APS Cholla Power Plant (SEDI)	☐ 2 days		
PO #: 300588233	☐ 1 day		

COC No: 1 of 1 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 4500-HB (pH)	SM 2540C (TDS)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 245.1 - Totals (Hg)	Sample Specific Notes:
CH-CCR-CR1R-0821	8/2/21	10:02	G	W	2	N	N	X	X	X	X	X	X	Low Flow
CH-CCR-DUP01-0821	"	"	G	W	2	N	N	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	1	1	4	4	4	

550-168310 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

3.3°C ICE CDO

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:____ Corr'd:____		Therm ID No.:____
Relinquished by: [signature]	Company: Wood	Date/Time: 8/4/21 10:54	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole Sherrill	Company: ETA PMX	Date/Time: 8/4/21 1054

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31552.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-168310-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 8/17/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Replacement Well Sampling	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Analysis Requested

550-168310 Chain of Custody

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-CR1R-0821 (550-168310-1)	8/2/21	10:02 Arizona		Water			X	1	AZ Sample
CH-CCR-DUP01-0821 (550-168310-2)	8/2/21	10:02 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Emld B-D8-21	Date/Time: 14:40	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: Fedex	Date/Time:	Company:	Received by: [illegible]	Date/Time: 8/5/21 920	Company: ETA/DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 174023	Cooler Temperature(s) °C and Other Remarks: 6.3 IR12 CF -0.6

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168310-1
SDG Number: APS Cholla Power Plant (SEDI)

Login Number: 168310
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168310-1
SDG Number: APS Cholla Power Plant (SEDI)

Login Number: 168310
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 08/05/21 02:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 02, 2021
Sample Received: August 04, 2021
Analysis Completed: August 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-CR1R-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/17/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

August 2, 2021 — Sample Date
10:02 — Sample Time (24 hour clock)
Owner/Contact Person: ______

Owner/Contact Fax Number: ______
Owner/Contact Phone Number: ______

Sample Collection Point
☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______
☐ Quarterly — Date Q2 collected: ______
☐ Composite of four quarterly samples — Date Q3 collected: ______
Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67101
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-CR1R-0821
Authorized Signature:
Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 02, 2021
Sample Received: August 04, 2021
Analysis Completed: August 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-DUP01-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/17/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

August 2, 2021 | 10:02 (24 hour clock)

Sample Date | Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67102

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-DUP01-0821

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (SEDI)

Radiation Safety Engineering, Inc.

3245 North Washington Street Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-CR1R-0821	8/2/21	10:02	GW						X	X	X						67101
CH-CCR-DVP01-0821	"	"	"						X	X	X						67102

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			Method HPGe
Chain of Custody Seals			PO #: 300588231
Container Condition			
Lab No.			

Relinguished By: [signature]	Company: Wood	Date/time: 8-4-21	Received By: Pat Flannery	Company: RSE	Date/time: 8/4/21 11:41
Relinguished By:	Company:	Date/time: 11:41	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-173423-1
Laboratory SDG: APS Cholla Power Plant (SEDI)
Client Project/Site: CCR Groundwater Monitoring
Revision: 3

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
11/24/2021 3:59:14 PM
Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

Designee for

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
T5	Laboratory not licensed for this parameter

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H3	Sample was received and/ or analysis requested past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-173423-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-173423-1

Comments
This Revised report contains the correct sampling time for CH-CCR-FD02-1021, CH-CCR-CR1R-1021, CH-CCR-CR1R-1021-MS, CH-CCR-CR1R-1021-MSD.

Receipt
The samples were received on 11/1/2021 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.8º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): CH-CCR-CR1R-1021 (550-173423-1). The container labels list sample time 16:24, while the COC lists sample time 16:53. The client was contacted, and the lab was instructed to use 16:53 as the sample time as the container labels had the correct information.

The following samples were received outside of holding time:

TDS was received past hold.

CH-CCR-CR1R-1021 (550-173423-1), CH-CCR-M56-1021 (550-173423-2), CH-CCR-M57-1021 (550-173423-3), CH-CCR-M58-1021 (550-173423-4), CH-CCR-M62-1021 (550-173423-5) and CH-CCR-FD02-1021 (550-173423-6).

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.8 LL: The laboratory control sample (LCS) associated with preparation batch 550-257696 and analytical batch 550-258420 was outside acceptance criteria for Barium. Re-extraction and/or re-analysis could not be performed; therefore, the data have been reported. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173423-1	CH-CCR-CR1R-1021	Water	10/21/21 16:53	11/01/21 15:48
550-173423-2	CH-CCR-M56-1021	Water	10/21/21 12:58	11/01/21 15:48
550-173423-3	CH-CCR-M57-1021	Water	10/21/21 13:39	11/01/21 15:48
550-173423-4	CH-CCR-M58-1021	Water	10/21/21 14:22	11/01/21 15:48
550-173423-5	CH-CCR-M62-1021	Water	10/21/21 11:08	11/01/21 15:48
550-173423-6	CH-CCR-FD02-1021	Water	10/21/21 16:53	11/01/21 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Client Sample ID: CH-CCR-CR1R-1021 | Lab Sample ID: 550-173423-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	660	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.36	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	260	D2 M3	4.0	0.85	mg/L	2		300.0	Total/NA
Lithium	0.033		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.16		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000075	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00066		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.079		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000061	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Cobalt	0.000076	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0073	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00025	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00038		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1500	H3	20	20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M56-1021 | Lab Sample ID: 550-173423-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.41	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	1000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.11		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.35		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00022	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0031		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.050		0.0010	0.00052	mg/L	1		200.8 LL	Total/NA
Chromium	0.0060		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00076		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0083	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00081		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000098	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4700	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M57-1021 | Lab Sample ID: 550-173423-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.38	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	1200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.10		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.43		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00011	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0033		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.055		0.00063	0.00032	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00012		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M57-1021 (Continued) — Lab Sample ID: 550-173423-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.056		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0029		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0069	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0010		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000060	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4900	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M58-1021 — Lab Sample ID: 550-173423-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.34	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.069		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	310		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0054		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.062		0.0025	0.0013	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00024	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0016	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00054		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000020	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4500	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M62-1021 — Lab Sample ID: 550-173423-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.35	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	770	D2	400	85	mg/L	200		300.0	Total/NA
Beryllium	0.00016	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.087		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.22		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	390		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00018	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0054		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.13		0.0017	0.00086	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00013		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0031		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0017		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0053	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00099		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000048	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4900	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Client Sample ID: CH-CCR-FD02-1021

Lab Sample ID: 550-173423-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	640	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.40	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	260	D2	4.0	0.85	mg/L	2		300.0	Total/NA
Lithium	0.033		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.15		0.056	0.0028	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	110		2.2	0.014	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00070		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.082		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0077	T5	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00078		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1600	H3	20	20	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-CR1R-1021 — Lab Sample ID: 550-173423-1

Date Collected: 10/21/21 16:53 — **Matrix: Water**

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	660	D2	400	100	mg/L			11/06/21 05:47	200
Fluoride	0.36	D1 E4	0.80	0.095	mg/L			11/06/21 04:23	2
Sulfate	260	D2 M3	4.0	0.85	mg/L			11/06/21 04:23	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:23	1
Lithium	0.033		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:21	1
Boron	0.16		0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:23	1
Calcium	110		2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:23	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000075	E4	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:04	1
Arsenic	0.00066		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:04	1
Barium	0.079		0.00050	0.00026	mg/L		11/12/21 19:44	11/15/21 17:21	1
Cadmium	0.000061	E4	0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:04	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:04	1
Cobalt	0.000076	E4	0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:04	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:04	1
Molybdenum	0.0073	T5	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:04	1
Selenium	0.00025	E4	0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:03	1
Thallium	0.00038		0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:03	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500	H3	20	20	mg/L			11/04/21 08:13	1
pH	7.9	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	11.0	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M56-1021 — Lab Sample ID: 550-173423-2

Date Collected: 10/21/21 12:58 — **Matrix: Water**

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	400	100	mg/L			11/06/21 23:15	200
Fluoride	0.41	D1 E4	0.80	0.095	mg/L			11/06/21 22:47	2
Sulfate	1000	D2	400	85	mg/L			11/06/21 23:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:26	1
Lithium	0.11		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:37	1
Boron	0.35		0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:26	1
Calcium	310		2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:26	1

Client Sample ID: CH-CCR-M56-1021

Lab Sample ID: 550-173423-2

Date Collected: 10/21/21 12:58
Date Received: 11/01/21 15:48

Matrix: Water

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00022	E4	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:06	1
Arsenic	0.0031		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:06	1
Barium	0.050		0.0010	0.00052	mg/L		11/12/21 19:44	11/15/21 17:23	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:06	1
Chromium	0.0060		0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:06	1
Cobalt	0.00076		0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:06	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:06	1
Molybdenum	0.0083	T5	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:06	1
Selenium	0.00081		0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:05	1
Thallium	0.000098	E4	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:05	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4700	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.5	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	11.3	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M57-1021

Lab Sample ID: 550-173423-3

Date Collected: 10/21/21 13:39
Date Received: 11/01/21 15:48

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2000	D2	400	100	mg/L			11/07/21 00:11	200
Fluoride	0.38	D1 E4	0.80	0.095	mg/L			11/06/21 23:43	2
Sulfate	1200	D2	400	85	mg/L			11/07/21 00:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:28	1
Lithium	0.10		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:41	1
Boron	0.43		0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:28	1
Calcium	430		2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:28	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00011	E4	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:08	1
Arsenic	0.0033		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:08	1
Barium	0.055		0.00063	0.00032	mg/L		11/12/21 19:44	11/15/21 17:25	1
Cadmium	0.00012		0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:08	1
Chromium	0.056		0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:08	1
Cobalt	0.0029		0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:08	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:08	1
Molybdenum	0.0069	T5	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:08	1
Selenium	0.0010		0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:07	1
Thallium	0.000060	E4	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:07	1

Client Sample ID: CH-CCR-M57-1021

Lab Sample ID: 550-173423-3

Date Collected: 10/21/21 13:39

Matrix: Water

Date Received: 11/01/21 15:48

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4900**	**D2 H3**	100	100	mg/L			11/04/21 08:13	1
pH	**7.2**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**11.8**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M58-1021

Lab Sample ID: 550-173423-4

Date Collected: 10/21/21 14:22

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2100**	**D2**	400	100	mg/L			11/07/21 02:03	200
Fluoride	**0.34**	**D1 E4**	0.80	0.095	mg/L			11/07/21 01:35	2
Sulfate	**600**	**D2**	400	85	mg/L			11/07/21 02:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:31	1
Lithium	**0.069**		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:45	1
Boron	**0.22**		0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:31	1
Calcium	**310**		2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:31	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:10	1
Arsenic	**0.0054**		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:10	1
Barium	**0.062**		0.0025	0.0013	mg/L		11/12/21 19:44	11/15/21 17:27	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:10	1
Cobalt	**0.00024**	**E4**	0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:10	1
Molybdenum	**0.0016**	**T5**	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:10	1
Selenium	**0.00054**		0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:10	1
Thallium	**0.000020**	**E4**	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:10	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**4500**	**D2 H3**	100	100	mg/L			11/04/21 08:13	1
pH	**7.6**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**12.0**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M62-1021

Lab Sample ID: 550-173423-5

Date Collected: 10/21/21 11:08
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800	D2	400	100	mg/L			11/07/21 05:46	200
Fluoride	0.35	D1 E4	0.80	0.095	mg/L			11/07/21 04:22	2
Sulfate	770	D2	400	85	mg/L			11/07/21 05:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00016	E4	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:33	1
Lithium	0.087		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:49	1
Boron	0.22		0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:33	1
Calcium	390		2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:33	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00018	E4	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:13	1
Arsenic	0.0054		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:13	1
Barium	0.13		0.0017	0.00086	mg/L		11/12/21 19:44	11/15/21 17:29	1
Cadmium	0.00013		0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:13	1
Chromium	0.0031		0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:13	1
Cobalt	0.0011		0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:13	1
Lead	0.0017		0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:13	1
Molybdenum	0.0053	T5	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:13	1
Selenium	0.00099		0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:12	1
Thallium	0.000048	E4	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:12	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4900	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.5	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	11.6	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-FD02-1021

Lab Sample ID: 550-173423-6

Date Collected: 10/21/21 16:53
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	640	D2	400	100	mg/L			11/07/21 07:38	200
Fluoride	0.40	D1 E4	0.80	0.095	mg/L			11/07/21 07:10	2
Sulfate	260	D2	4.0	0.85	mg/L			11/07/21 07:10	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0011	0.000074	mg/L		11/05/21 21:00	11/09/21 16:36	1
Lithium	0.033		0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 15:14	1
Boron	0.15		0.056	0.0028	mg/L		11/05/21 21:00	11/09/21 16:36	1
Calcium	110		2.2	0.014	mg/L		11/05/21 21:00	11/09/21 16:36	1

Client Sample ID: CH-CCR-FD02-1021
Date Collected: 10/21/21 16:53
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173423-6
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 21:15	1
Arsenic	**0.00070**		0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 21:15	1
Barium	**0.082**		0.00050	0.00026	mg/L		11/04/21 07:01	11/11/21 18:14	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 21:15	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 21:15	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 21:15	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 21:15	1
Molybdenum	**0.0077**	**T5**	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 21:15	1
Selenium	**0.00078**		0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 18:14	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 18:14	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1600**	**H3**	20	20	mg/L			11/04/21 08:13	1
pH	**7.9**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**12.5**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-257921/1032
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/06/21 02:59	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/06/21 02:59	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/06/21 02:59	1

Lab Sample ID: LCS 550-257921/33
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.0		mg/L		100	90 - 110
Fluoride	4.00	3.99		mg/L		100	90 - 110
Sulfate	20.0	19.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-257921/34
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.5		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 257921

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.36	E4 D1	8.00	8.47	D1	mg/L		101	80 - 120
Sulfate	260	D2 M3	40.0	298	D2 M3	mg/L		100	80 - 120

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 257921

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	660	D2	4000	4740	D2	mg/L		102	80 - 120

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 257921

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.36	E4 D1	8.00	8.49	D1	mg/L		102	80 - 120	0	20
Sulfate	260	D2 M3	40.0	298	D2 M3	mg/L		99	80 - 120	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 257921

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	660	D2	4000	4740	D2	mg/L		102	80 - 120	0	20

Lab Sample ID: MB 550-257940/2
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/06/21 12:05	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/06/21 12:05	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/06/21 12:05	1

Lab Sample ID: LCS 550-257940/5
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		101	90 - 110
Fluoride	4.00	3.89		mg/L		97	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257940/6
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		101	90 - 110	0	20
Fluoride	4.00	3.90		mg/L		97	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173862-A-1 MS
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	M2	30.0	128		mg/L		84	80 - 120
Fluoride	0.32	E4	6.00	6.72		mg/L		107	80 - 120
Sulfate	210	E2 M3	30.0	232	E2 M3	mg/L		63	80 - 120

Lab Sample ID: 550-173862-A-1 MSD
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	M2	30.0	126	M2	mg/L		78	80 - 120	2	20
Fluoride	0.32	E4	6.00	6.24		mg/L		99	80 - 120	7	20
Sulfate	210	E2 M3	30.0	230	E2 M3	mg/L		57	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-257941/1034
Matrix: Water
Analysis Batch: 257941

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/07/21 02:59	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/07/21 02:59	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/07/21 02:59	1

Lab Sample ID: LCS 550-257941/35
Matrix: Water
Analysis Batch: 257941

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		102	90 - 110
Fluoride	4.00	3.91		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257941/36
Matrix: Water
Analysis Batch: 257941

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		102	90 - 110	0	20
Fluoride	4.00	3.92		mg/L		98	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173423-5 MS
Matrix: Water
Analysis Batch: 257941

Client Sample ID: CH-CCR-M62-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.35	E4 D1	8.00	8.01	D1	mg/L		96	80 - 120

Lab Sample ID: 550-173423-5 MS
Matrix: Water
Analysis Batch: 257941

Client Sample ID: CH-CCR-M62-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2800	D2	4000	6840	D2	mg/L		100	80 - 120
Sulfate	770	D2	4000	4600	D2	mg/L		96	80 - 120

Lab Sample ID: 550-173423-5 MSD
Matrix: Water
Analysis Batch: 257941

Client Sample ID: CH-CCR-M62-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.35	E4 D1	8.00	8.09	D1	mg/L		97	80 - 120	1	20

Lab Sample ID: 550-173423-5 MSD
Matrix: Water
Analysis Batch: 257941

Client Sample ID: CH-CCR-M62-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2800	D2	4000	6800	D2	mg/L		99	80 - 120	1	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173423-5 MSD
Matrix: Water
Analysis Batch: 257941

Client Sample ID: CH-CCR-M62-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	770	D2	4000	4590	D2	mg/L		96	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-257916/1-A
Matrix: Water
Analysis Batch: 258168

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257916

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/05/21 21:00	11/09/21 16:10	1
Boron	0.0290	E4	0.050	0.0025	mg/L		11/05/21 21:00	11/09/21 16:10	1
Calcium	ND	E8	2.0	0.013	mg/L		11/05/21 21:00	11/09/21 16:10	1

Lab Sample ID: LCS 550-257916/2-A
Matrix: Water
Analysis Batch: 258168

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257916

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.955		mg/L		95	85 - 115
Boron	1.00	0.979		mg/L		98	85 - 115
Calcium	20.0	21.2		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-257916/3-A
Matrix: Water
Analysis Batch: 258168

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257916

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.954		mg/L		95	85 - 115	0	20
Boron	1.00	0.967		mg/L		97	85 - 115	1	20
Calcium	20.0	21.1		mg/L		106	85 - 115	0	20

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 258168

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257916

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND	E8	1.00	0.956		mg/L		96	70 - 130
Boron	0.16		1.00	1.12		mg/L		96	70 - 130
Calcium	110		20.0	125	M3	mg/L		86	70 - 130

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 258168

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257916

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	0.991		mg/L		99	70 - 130	4	20
Boron	0.16		1.00	1.12		mg/L		96	70 - 130	0	20
Calcium	110		20.0	129	M3	mg/L		105	70 - 130	3	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-556662/1-A
Matrix: Water
Analysis Batch: 556993

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556662

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/09/21 14:57	11/10/21 14:13	1

Lab Sample ID: LCS 280-556662/2-A
Matrix: Water
Analysis Batch: 556993

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556662

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.01		mg/L		101	90 - 112

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 556993

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 556662

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.033		1.00	1.09		mg/L		106	70 - 130

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 556993

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 556662

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.033		1.00	1.07		mg/L		104	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-257696/1-A
Matrix: Water
Analysis Batch: 258319

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		11/04/21 07:01	11/10/21 20:54	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		11/04/21 07:01	11/10/21 20:54	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 07:01	11/10/21 20:54	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 07:01	11/10/21 20:54	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 07:01	11/10/21 20:54	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 07:01	11/10/21 20:54	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		11/04/21 07:01	11/10/21 20:54	1

Lab Sample ID: MB 550-257696/1-A
Matrix: Water
Analysis Batch: 258420

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257696

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		11/04/21 07:01	11/11/21 17:53	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/04/21 07:01	11/11/21 17:53	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 07:01	11/11/21 17:53	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-257696/2-A
Matrix: Water
Analysis Batch: 258319

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.106		mg/L		106	85 - 115
Arsenic	0.100	0.0992		mg/L		99	85 - 115
Cadmium	0.100	0.103		mg/L		103	85 - 115
Chromium	0.100	0.0923		mg/L		92	85 - 115
Cobalt	0.100	0.0953		mg/L		95	85 - 115
Lead	0.100	0.112		mg/L		112	85 - 115
Molybdenum	0.100	0.100		mg/L		100	85 - 115

Lab Sample ID: LCS 550-257696/2-A
Matrix: Water
Analysis Batch: 258420

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.104		mg/L		104	85 - 115
Thallium	0.100	0.0994		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-257696/3-A
Matrix: Water
Analysis Batch: 258319

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.106		mg/L		106	85 - 115	0	20
Arsenic	0.100	0.0996		mg/L		100	85 - 115	0	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	1	20
Chromium	0.100	0.0929		mg/L		93	85 - 115	1	20
Cobalt	0.100	0.0956		mg/L		96	85 - 115	0	20
Lead	0.100	0.111		mg/L		111	85 - 115	1	20
Molybdenum	0.100	0.0995		mg/L		100	85 - 115	1	20

Lab Sample ID: LCSD 550-257696/3-A
Matrix: Water
Analysis Batch: 258420

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.100	0.104		mg/L		104	85 - 115	0	20
Thallium	0.100	0.103		mg/L		103	85 - 115	3	20

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 258319

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000075	E4	0.100	0.107		mg/L		107	70 - 130
Arsenic	0.00066		0.100	0.102		mg/L		101	70 - 130
Cadmium	0.000061	E4	0.100	0.0986		mg/L		99	70 - 130
Chromium	ND	E8	0.100	0.0914		mg/L		91	70 - 130
Cobalt	0.000076	E4	0.100	0.0919		mg/L		92	70 - 130
Lead	ND	E8	0.100	0.103		mg/L		103	70 - 130
Molybdenum	0.0073	T5	0.100	0.110		mg/L		103	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 258420
Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.00025	E4	0.100	0.107		mg/L		107	70 - 130
Thallium	0.00038		0.100	0.0906		mg/L		90	70 - 130

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 258319
Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000075	E4	0.100	0.105		mg/L		105	70 - 130	2	20
Arsenic	0.00066		0.100	0.101		mg/L		100	70 - 130	1	20
Cadmium	0.000061	E4	0.100	0.0964		mg/L		96	70 - 130	2	20
Chromium	ND	E8	0.100	0.0881		mg/L		88	70 - 130	4	20
Cobalt	0.000076	E4	0.100	0.0909		mg/L		91	70 - 130	1	20
Lead	ND	E8	0.100	0.102		mg/L		102	70 - 130	1	20
Molybdenum	0.0073	T5	0.100	0.105		mg/L		98	70 - 130	4	20

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 258420
Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257696

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.00025	E4	0.100	0.105		mg/L		105	70 - 130	2	20
Thallium	0.00038		0.100	0.0954		mg/L		95	70 - 130	5	20

Lab Sample ID: MB 550-258533/1-A
Matrix: Water
Analysis Batch: 258667
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258533

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		11/12/21 19:44	11/15/21 17:10	1

Lab Sample ID: LCS 550-258533/2-A
Matrix: Water
Analysis Batch: 258760
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258533

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCSD 550-258533/3-A
Matrix: Water
Analysis Batch: 258667
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258533

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.100	0.114		mg/L		114	85 - 115	3	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 258667

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 258533

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.079		0.100	0.194		mg/L		115	70 - 130

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 258667

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 258533

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.079		0.100	0.190		mg/L		111	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-257542/1-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:34	1

Lab Sample ID: LCS 550-257542/2-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00468		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-257542/3-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00452		mg/L		90	85 - 115	3	20

Lab Sample ID: 550-173423-1 MS
Matrix: Water
Analysis Batch: 257651

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00527		mg/L		105	70 - 130

Lab Sample ID: 550-173423-1 MSD
Matrix: Water
Analysis Batch: 257651

Client Sample ID: CH-CCR-CR1R-1021
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00508		mg/L		102	70 - 130	4	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-257698/1
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/04/21 08:13	1

Lab Sample ID: LCS 550-257698/2
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1010		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-257698/3
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	3	10

Lab Sample ID: 550-173411-A-47 DU
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3600	D2	3740	D2	mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-258399/13
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258399/25
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.4	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258399/37
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		100.7	98.5 - 101.5

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-173411-E-61 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.5	H5	SU		0.1	5
Temperature	10.5	H5	10.8	H5	Degrees C		3	

Lab Sample ID: 550-173423-4 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: CH-CCR-M58-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.6	H5	SU		0.3	5
Temperature	12.0	H5	12.2	H5	Degrees C		2	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

HPLC/IC

Analysis Batch: 257921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	300.0	
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	300.0	
MB 550-257921/1032	Method Blank	Total/NA	Water	300.0	
LCS 550-257921/33	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257921/34	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	300.0	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	300.0	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	300.0	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	300.0	

Analysis Batch: 257940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	300.0	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	300.0	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	300.0	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	300.0	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	300.0	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	300.0	
MB 550-257940/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257940/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257940/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173862-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173862-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257941

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	300.0	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	300.0	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	300.0	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	300.0	
MB 550-257941/1034	Method Blank	Total/NA	Water	300.0	
LCS 550-257941/35	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257941/36	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173423-5 MS	CH-CCR-M62-1021	Total/NA	Water	300.0	
550-173423-5 MS	CH-CCR-M62-1021	Total/NA	Water	300.0	
550-173423-5 MSD	CH-CCR-M62-1021	Total/NA	Water	300.0	
550-173423-5 MSD	CH-CCR-M62-1021	Total/NA	Water	300.0	

Metals

Prep Batch: 257542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	245.1	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	245.1	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	245.1	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	245.1	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	245.1	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	245.1	
MB 550-257542/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257542/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257542/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 257542 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	245.1	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	245.1	

Analysis Batch: 257651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	245.1	257542
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	245.1	257542
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	245.1	257542
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	245.1	257542
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	245.1	257542
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	245.1	257542
MB 550-257542/1-A	Method Blank	Total/NA	Water	245.1	257542
LCS 550-257542/2-A	Lab Control Sample	Total/NA	Water	245.1	257542
LCSD 550-257542/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257542
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	245.1	257542
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	245.1	257542

Prep Batch: 257696

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.8	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.8	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.8	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.8	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.8	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.8	
MB 550-257696/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257696/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257696/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.8	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.8	

Prep Batch: 257916

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.7	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.7	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.7	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.7	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.7	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.7	
MB 550-257916/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257916/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257916/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.7	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.7	

Analysis Batch: 258168

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.7 Rev 4.4	257916

Metals (Continued)

Analysis Batch: 258168 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.7 Rev 4.4	257916
MB 550-257916/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257916
LCS 550-257916/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257916
LCSD 550-257916/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	257916
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	257916

Analysis Batch: 258319

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.8 LL	257696
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.8 LL	257696
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.8 LL	257696
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.8 LL	257696
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.8 LL	257696
MB 550-257696/1-A	Method Blank	Total/NA	Water	200.8 LL	257696
LCS 550-257696/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257696
LCSD 550-257696/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257696
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696

Analysis Batch: 258420

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.8 LL	257696
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.8 LL	257696
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.8 LL	257696
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.8 LL	257696
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.8 LL	257696
MB 550-257696/1-A	Method Blank	Total/NA	Water	200.8 LL	257696
LCS 550-257696/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257696
LCSD 550-257696/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257696
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	257696

Prep Batch: 258533

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.8	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.8	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.8	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.8	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.8	
MB 550-258533/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-258533/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-258533/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.8	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.8	

Metals

Analysis Batch: 258667

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	258533
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.8 LL	258533
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.8 LL	258533
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.8 LL	258533
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.8 LL	258533
MB 550-258533/1-A	Method Blank	Total/NA	Water	200.8 LL	258533
LCSD 550-258533/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	258533
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	258533
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.8 LL	258533

Analysis Batch: 258760

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-258533/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	258533

Prep Batch: 556662

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.7	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.7	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.7	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.7	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.7	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.7	
MB 280-556662/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-556662/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.7	
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.7	

Analysis Batch: 556993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	200.7 Rev 4.4	556662
MB 280-556662/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	556662
LCS 280-556662/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-1 MS	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	556662
550-173423-1 MSD	CH-CCR-CR1R-1021	Total/NA	Water	200.7 Rev 4.4	556662

General Chemistry

Analysis Batch: 257698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	SM 2540C	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	SM 2540C	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	SM 2540C	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	SM 2540C	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	SM 2540C	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	SM 2540C	
MB 550-257698/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 257698 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-257698/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257698/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173411-A-47 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 258399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173423-1	CH-CCR-CR1R-1021	Total/NA	Water	SM 4500 H+ B	
550-173423-2	CH-CCR-M56-1021	Total/NA	Water	SM 4500 H+ B	
550-173423-3	CH-CCR-M57-1021	Total/NA	Water	SM 4500 H+ B	
550-173423-4	CH-CCR-M58-1021	Total/NA	Water	SM 4500 H+ B	
550-173423-5	CH-CCR-M62-1021	Total/NA	Water	SM 4500 H+ B	
550-173423-6	CH-CCR-FD02-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173411-E-61 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-173423-4 DU	CH-CCR-M58-1021	Total/NA	Water	SM 4500 H+ B	

Client Sample ID: CH-CCR-CR1R-1021

Lab Sample ID: 550-173423-1
Date Collected: 10/21/21 16:53
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257921	11/06/21 04:23	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257921	11/06/21 05:47	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:23	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 14:21	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:04	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:03	ARE	TAL PHX
Total/NA	Prep	200.8			258533	11/12/21 19:44	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258667	11/15/21 17:21	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:44	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M56-1021

Lab Sample ID: 550-173423-2
Date Collected: 10/21/21 12:58
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257940	11/06/21 22:47	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/06/21 23:15	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:26	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 14:37	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:06	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:05	ARE	TAL PHX
Total/NA	Prep	200.8			258533	11/12/21 19:44	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258667	11/15/21 17:23	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:46	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company | Job ID: 550-173423-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (SEDI)

Client Sample ID: CH-CCR-M57-1021 | Lab Sample ID: 550-173423-3

Date Collected: 10/21/21 13:39 | **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257940	11/06/21 23:43	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/07/21 00:11	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:28	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 14:41	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:08	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:07	ARE	TAL PHX
Total/NA	Prep	200.8			258533	11/12/21 19:44	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258667	11/15/21 17:25	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:48	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M58-1021 | Lab Sample ID: 550-173423-4

Date Collected: 10/21/21 14:22 | **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257940	11/07/21 01:35	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/07/21 02:03	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:31	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 14:45	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:10	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:10	ARE	TAL PHX
Total/NA	Prep	200.8			258533	11/12/21 19:44	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258667	11/15/21 17:27	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:50	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M62-1021

Lab Sample ID: 550-173423-5

Date Collected: 10/21/21 11:08

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257941	11/07/21 04:22	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257941	11/07/21 05:46	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:33	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 14:49	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:13	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:12	ARE	TAL PHX
Total/NA	Prep	200.8			258533	11/12/21 19:44	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258667	11/15/21 17:29	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:52	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-FD02-1021

Lab Sample ID: 550-173423-6

Date Collected: 10/21/21 16:53

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257941	11/07/21 07:10	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257941	11/07/21 07:38	JNW	TAL PHX
Total/NA	Prep	200.7			257916	11/05/21 21:00	CXK	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258168	11/09/21 16:36	MGM	TAL PHX
Total/NA	Prep	200.7			556662	11/09/21 14:57	CEH	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556993	11/10/21 15:14	LMT	TAL DEN
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258319	11/10/21 21:15	ARE	TAL PHX
Total/NA	Prep	200.8			257696	11/04/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258420	11/11/21 18:14	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:54	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-173423-1
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (SEDI)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-30-21
A2LA	ISO/IEC 17025	2907.01	11-30-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-19-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	11-21-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	08-31-22
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	11-30-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173423-1
SDG: APS Cholla Power Plant (SEDI)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173423

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (SEDI)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]A [redacted]0.0 (Cl, F, SO4)	[redacted]A [redacted]0.7 - Totals (B, Ca, Be, Li)	[redacted]4[redacted]0-HB (pH)	[redacted]2[redacted]0C (TDS)	[redacted]A [redacted]0.8 - Totals (Sb, As, Ba, [redacted]C[redacted] Cr, Pb, Mo, Se, Tl)	[redacted]A 245.1 - Totals (Hg)		Sample Specific Notes:
CH-CCR-CR1R-1021 sample time 16:24	10/21/21	16:53	G	W	2	N	Y	X	X	X	X	X	X	-01	Low Flow
CH-CCR-M56-1021	10/21/21	12:58	G	W	2	N		X	X	X	X	X	X	-02	"
CH-CCR-M57-1021	10/21/21	13:39	G	W	2	N		X	X	X	X	X	X	-03	"
CH-CCR-M58-1021	10/21/21	14:22	G	W	2	N		X	X	X	X	X	X	-04	"
CH-CCR-M62-1021	10/21/21	11:08	G	W	2	N		X	X	X	X	X	X	-05	"
CH-CCR-FD02-1021	10/21/21	16:53	G	W	2	N	N	X	X	X	X	X	X	-06	"
CH-CCR-CR1R-1021-MS	10/21/21	16:53	G	W	2	N	N	X	X	X	X	X	X	-01	Low Flow, MS
CH-CCR-CR1R-1021-SD	10/21/21	16:53	G	W	2	N	N	X	X	X	X	X	X	-01	Low Flow, MSD

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ | 1 | 4 | 1 | 1 | 4 | 4

550-173423 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Method 200.8 with collision cell

Temp 1.8°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:____ Corr'd:____	Therm ID No.:____
Relinquished by:	Company: Wood	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 11-01-21 15:48

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173423-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-CR1R-1021 (550-173423-1)	10/21/21	16:53 Arizona		Water			X	1	AZ Sample
CH-CCR-CR1R-1021 (550-173423-1MS)	10/21/21	16:53 Arizona	MS	Water			X	1	AZ Sample
CH-CCR-CR1R-1021 (550-173423-1MSD)	10/21/21	16:53 Arizona	MSD	Water			X	1	AZ Sample
CH-CCR-M56-1021 (550-173423-2)	10/21/21	12:58 Arizona		Water			X	1	AZ Sample
CH-CCR-M57-1021 (550-173423-3)	10/21/21	13:39 Arizona		Water			X	1	AZ Sample
CH-CCR-M58-1021 (550-173423-4)	10/21/21	14:22 Arizona		Water			X	1	AZ Sample
CH-CCR-M62-1021 (550-173423-5)	10/21/21	11:08 Arizona		Water			X	1	AZ Sample
CH-CCR-FD02-1021 (550-173423-6)	10/21/21	16:53 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [illegible] 11-02-21	Date/Time: 10:30	Company TA-PHX	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 11/3/21 1055	Company ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1754782		Cooler Temperature(s) °C and Other Remarks: 0.6 IRM CF +/-0		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173423-1
SDG Number: APS Cholla Power Plant (SEDI)

Login Number: 173423
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173423-1
SDG Number: APS Cholla Power Plant (SEDI)

Login Number: 173423
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 11/03/21 07:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-CR1R-1021	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/16/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 21, 2021 | 16:53 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67623

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-CR1R-1021

Authorized Signature: [signature]

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M56-1021	< 0.4	0.7 ± 0.3	0.7 ± 0.3

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/16/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 21, 2021 — Sample Date

12:58 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.7 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.7 ± 0.3	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67624

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M56-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M57-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/16/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 21, 2021 — Sample Date

13:39 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67625

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M57-1021

Authorized Signature: Allie Mann

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M58-1021	< 0.4	0.8 ± 0.3	0.8 ± 0.3

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/16/2021
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

October 21, 2021	14:22	(24 hour clock)	
Sample Date	Sample Time		Owner/Contact Person

Owner/Contact Fax Number ______ Owner/Contact Phone Number ______

Sample Collection Point

☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______

☐ Quarterly — Date Q2 collected: ______

☐ Composite of four quarterly samples — Date Q3 collected: ______

Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.8 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.8 ± 0.3		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67626

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M58-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M62-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/16/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________   PWS Name: ____________

October 21, 2021 | 11:08 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person ____________

Owner/Contact Fax Number ____________

Owner/Contact Phone Number ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67627

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M62-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD02-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/16/2021 Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 21, 2021 | 16:53 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67628
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-FD02-1021
Authorized Signature: alix thom
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-CR1R-1021-MS	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/16/2021 Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 21, 2021 | 16:53 | (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67629

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-CR1R-1021-MS

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 16, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-CR1R-1021-SD	< 0.4	0.7 ± 0.3	0.7 ± 0.3

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers 11/16/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 21, 2021 — Sample Date

16:53 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.7 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.7 ± 0.3	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67630

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-CR1R-1021-SD

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street, 85225, Chandler, Arizona

Analysis Request

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (SEDI)**

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-CR1R-1021	10/21/2021	16:53	**GW**						X	X	X				67623	
CH-CCR-M56-1021	10/21/2021	12:58	**GW**						X	X	X				67624	
CH-CCR-M57-1021	10/21/2021	13:39	**GW**						X	X	X				67625	
CH-CCR-M58-1021	10/21/2021	14:22	**GW**						X	X	X				67626	
CH-CCR-M62-1021	10/21/2021	11:08	**GW**						X	X	X				67627	
CH-CCR-FD02-1021	10/21/2021	16:53	**GW**						X	X	X				67628	
CH-CCR-CR1R-1021-MS	10/21/2021	16:53	**GW**						X	X	X				67629	
CH-CCR-CR1R-1021-SD	10/21/2021	16:53	**GW**						X	X	X				67630	

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers		PO #: 300588231	**Method HPGe**
Chain of Custody Seals			
Container Condition			
Lab No.			

Relinguished By: Adam Ramirez	Company: Wood	Date/time: 11/1/21 4:05	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-162152-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
5/4/2021 3:54:09 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS

Review your project results through Total Access

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
N1	See case narrative.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-162152-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-162152-1

Comments
No additional comments.

Receipt
The samples were received on 4/19/2021 10:41 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 3.0º C, 4.0º C, 5.3º C, 6.3º C and 6.4º C.

Receipt Exceptions
Associated sample coolers received out of temp for the samples listed:

CH-CCR-M52-0421 (550-162152-1), CH-CCR-M52-0421 (550-162152-2), CH-CCR-M55-0421 (550-162152-5), CH-CCR-M55-0421 (550-162152-6), CH-CCR-M69-0421 (550-162152-7), CH-CCR-M69-0421 (550-162152-8), CH-CCR-M70-0421 (550-162152-9), CH-CCR-M70-0421 (550-162152-10), CH-CCR-W304-0421 (550-162152-17), CH-CCR-W304-0421 (550-162152-18), CH-CCR-W305-0421 (550-162152-19), CH-CCR-W305-0421 (550-162152-20), CH-CCR-W306-0421 (550-162152-23), CH-CCR-W306-0421 (550-162152-24), CH-CCR-W307-0421 (550-162152-25), CH-CCR-W307-0421 (550-162152-26), CH-CCR-W308-0421 (550-162152-27), CH-CCR-W308-0421 (550-162152-28), CH-CCR-W309-0421 (550-162152-29) and CH-CCR-W309-0421 (550-162152-30)

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: (550-162157-E-5 ^200). This analyte was not detected in the diluted sample. As such, an elevated reporting limit (RL) has been provided.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-W305-0421 (550-162152-19). This analyte was not detected in the diluted sample. As such, an elevated reporting limit (RL) has been provided.

Method 300.0: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-240269 were outside control limits for Chloride and Sulfate. Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: (550-162157-E-1 ^200). As such, an elevated reporting limit (RL) has been provided.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-FD04-0421 (550-162152-42). As such, an elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-BAP-0421 (550-162152-34). Elevated reporting limits (RLs) are provided.

Method 200.7: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Due to insufficient sample volume the sample was prepared at half volume (25mL). Method:200.7 Tot Prep Batch:534428

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The results for the source sample corresponding with the matrix spike / matrix spike duplicate (MS/MSD) associated with analytical batch 550-240618 for Total Organic Carbon (TOC) by method SM 5310B did not meet the method quality control

Job ID: 550-162152-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

requirements for reporting. The consecutive injections exceeded the relative percent difference requirement of 10; therefore, no results could not be reported and reanalysis was required. The results for the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) met acceptance criteria and may be used to verify batch accuracy and precision data. As such, the following sample results have been reported and qualified with N1 flags.

CH-CCR-M69-0421 (550-162152-7) and CH-CCR-W304-0421 (550-162152-17)

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-241040 were outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-162152-1	CH-CCR-M52-0421	Water	04/17/21 09:15	04/19/21 10:41	
550-162152-2	CH-CCR-M52-0421	Water	04/17/21 09:15	04/19/21 10:41	
550-162152-3	CH-CCR-M53-0421	Water	04/17/21 12:30	04/19/21 10:41	
550-162152-4	CH-CCR-M53-0421	Water	04/17/21 12:30	04/19/21 10:41	
550-162152-5	CH-CCR-M55-0421	Water	04/18/21 09:09	04/19/21 10:41	
550-162152-6	CH-CCR-M55-0421	Water	04/18/21 09:09	04/19/21 10:41	
550-162152-7	CH-CCR-M69-0421	Water	04/17/21 08:35	04/19/21 10:41	
550-162152-8	CH-CCR-M69-0421	Water	04/17/21 08:35	04/19/21 10:41	
550-162152-9	CH-CCR-M70-0421	Water	04/17/21 07:53	04/19/21 10:41	
550-162152-10	CH-CCR-M70-0421	Water	04/17/21 07:53	04/19/21 10:41	
550-162152-11	CH-CCR-W301-0421	Water	04/17/21 14:15	04/19/21 10:41	
550-162152-12	CH-CCR-W301-0421	Water	04/17/21 14:15	04/19/21 10:41	
550-162152-13	CH-CCR-W302-0421	Water	04/17/21 15:05	04/19/21 10:41	
550-162152-14	CH-CCR-W302-0421	Water	04/17/21 15:05	04/19/21 10:41	
550-162152-15	CH-CCR-W303-0421	Water	04/17/21 13:31	04/19/21 10:41	
550-162152-16	CH-CCR-W303-0421	Water	04/17/21 13:31	04/19/21 10:41	
550-162152-17	CH-CCR-W304-0421	Water	04/18/21 06:39	04/19/21 10:41	
550-162152-18	CH-CCR-W304-0421	Water	04/18/21 06:39	04/19/21 10:41	
550-162152-19	CH-CCR-W305-0421	Water	04/17/21 11:17	04/19/21 10:41	
550-162152-20	CH-CCR-W305-0421	Water	04/17/21 11:17	04/19/21 10:41	
550-162152-21	CH-CCR-FD03-0421	Water	04/17/21 12:30	04/19/21 10:41	
550-162152-22	CH-CCR-FD03-0421	Water	04/17/21 12:30	04/19/21 10:41	
550-162152-23	CH-CCR-W306-0421	Water	04/17/21 10:07	04/19/21 10:41	
550-162152-24	CH-CCR-W306-0421	Water	04/17/21 10:07	04/19/21 10:41	
550-162152-25	CH-CCR-W307-0421	Water	04/18/21 07:30	04/19/21 10:41	
550-162152-26	CH-CCR-W307-0421	Water	04/18/21 07:30	04/19/21 10:41	
550-162152-27	CH-CCR-W308-0421	Water	04/18/21 08:25	04/19/21 10:41	
550-162152-28	CH-CCR-W308-0421	Water	04/18/21 08:25	04/19/21 10:41	
550-162152-29	CH-CCR-W309-0421	Water	04/18/21 10:03	04/19/21 10:41	
550-162152-30	CH-CCR-W309-0421	Water	04/18/21 10:03	04/19/21 10:41	
550-162152-31	CH-CCR-W314-0421	Water	04/16/21 14:45	04/19/21 10:41	
550-162152-32	CH-CCR-W314-0421	Water	04/16/21 14:45	04/19/21 10:41	
550-162152-33	CH-CCR-W317-0421	Water	04/14/21 10:27	04/19/21 10:41	
550-162152-34	CH-CCR-BAP-0421	Water	04/16/21 10:10	04/19/21 10:41	
550-162152-35	CH-CCR-BAP-0421	Water	04/16/21 10:10	04/19/21 10:41	
550-162152-36	CH-CCR-BAPTD-0421	Water	04/17/21 11:45	04/19/21 10:41	
550-162152-37	CH-CCR-BAPTD-0421	Water	04/17/21 11:45	04/19/21 10:41	
550-162152-38	CH-CCR-Petroglyph-0421	Water	04/16/21 16:10	04/19/21 10:41	
550-162152-39	CH-CCR-Petroglyph-0421	Water	04/16/21 16:10	04/19/21 10:41	
550-162152-40	CH-CCR-TanWash-0421	Water	04/16/21 15:35	04/19/21 10:41	
550-162152-41	CH-CCR-TanWash-0421	Water	04/16/21 15:35	04/19/21 10:41	
550-162152-42	CH-CCR-FD04-0421	Water	04/17/21 11:45	04/19/21 10:41	
550-162152-43	CH-CCR-FD04-0421	Water	04/17/21 11:45	04/19/21 10:41	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-0421 — Lab Sample ID: 550-162152-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.27		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	4.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0017	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.017	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00088	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0052	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.059	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.058	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0013	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.14		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	9500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	6.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M52-0421 — Lab Sample ID: 550-162152-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0010	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.058	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M53-0421 — Lab Sample ID: 550-162152-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0019	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0083	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00093	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0020	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.029	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0010	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.22		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M53-0421 (Continued) Lab Sample ID: 550-162152-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	11.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M53-0421 Lab Sample ID: 550-162152-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.091	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M55-0421 Lab Sample ID: 550-162152-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.58	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.62	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.45		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.40		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.13		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.0038	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00026	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0021	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.015	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0068	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0047	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.13	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M55-0421 Lab Sample ID: 550-162152-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.075	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.0039	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0018	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M69-0421 Lab Sample ID: 550-162152-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M69-0421 (Continued) Lab Sample ID: 550-162152-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.50		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0023	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.019	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0086	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.020	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0011	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.5	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.5	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M69-0421 Lab Sample ID: 550-162152-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.66		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00081	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.015	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M70-0421 Lab Sample ID: 550-162152-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.087	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0010	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.023	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0016	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0019	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M70-0421 — Lab Sample ID: 550-162152-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.083	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00099	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.023	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W301-0421 — Lab Sample ID: 550-162152-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.34	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	20	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.58		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.60		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0028	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0093	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.029	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.023	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0093	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0072	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-0421 — Lab Sample ID: 550-162152-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.082	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0020	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W302-0421 — Lab Sample ID: 550-162152-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.95	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.40		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.60		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.18		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.053		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0021	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.014	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.025	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W302-0421 (Continued) — Lab Sample ID: 550-162152-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0048	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0084	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0011	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.83		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.81		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.83		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-0421 — Lab Sample ID: 550-162152-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.059	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.058		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0047	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W303-0421 — Lab Sample ID: 550-162152-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.50	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.33		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.99		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0019	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0046	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.036	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.050	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0019	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W303-0421 — Lab Sample ID: 550-162152-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.88		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.023	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W304-0421 — Lab Sample ID: 550-162152-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.24	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.42		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.45		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	600		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.15		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.81		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0076	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0079	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0040	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0046	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.70	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.67	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.70	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-0421 — Lab Sample ID: 550-162152-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.81		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00072	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0036	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W305-0421 — Lab Sample ID: 550-162152-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2 M1	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.45	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2300	D2 M1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.36		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0018	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0012	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0017	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.023	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0012	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.15		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W305-0421 (Continued) — Lab Sample ID: 550-162152-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon	1.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-0421 — Lab Sample ID: 550-162152-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.33		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	6.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0011	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD03-0421 — Lab Sample ID: 550-162152-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.064	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0024	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0083	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00079	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0017	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.027	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00096	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.11		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-0421 — Lab Sample ID: 550-162152-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.056	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W306-0421 — Lab Sample ID: 550-162152-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.94	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.79		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Job ID: 550-162152-1
Project/Site: CCR Groundwater Monitoring
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0421 (Continued) Lab Sample ID: 550-162152-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.99		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.011		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00023	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0056	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.041	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0044	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	18000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-0421 Lab Sample ID: 550-162152-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.0091	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0048	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00091	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W307-0421 Lab Sample ID: 550-162152-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.38	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.19		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.040		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0020	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00013	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0055	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.076	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00078	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0018	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307-0421 — Lab Sample ID: 550-162152-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.16		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.040		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.073	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W308-0421 — Lab Sample ID: 550-162152-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.46	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.42		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.071	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.19		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0018	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0081	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.011	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00077	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0025	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0080	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-0421 — Lab Sample ID: 550-162152-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.049	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.19		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00080	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W309-0421 — Lab Sample ID: 550-162152-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.8	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.36		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.45		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	470		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.60		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0015	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W309-0421 (Continued) — Lab Sample ID: 550-162152-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0076	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.042	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.010	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.20	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-0421 — Lab Sample ID: 550-162152-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.076	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.57		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00083	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00016	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W314-0421 — Lab Sample ID: 550-162152-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.32		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.096		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0020	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.032	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.029	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.015	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0018	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-0421 — Lab Sample ID: 550-162152-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.059	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.070		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0011	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.027	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W317-0421 — Lab Sample ID: 550-162152-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.35	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.060		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.19		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	340		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0079	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.034	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0055	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0030	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00096	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	2900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-BAP-0421 — Lab Sample ID: 550-162152-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.14	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	560		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.77		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.064		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400	D2	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0030	D1	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.016	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.27	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0020	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00061	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.017	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	120		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Carbonate Alkalinity as CaCO3	46		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Alkalinity, Phenolphthalein	23		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	8.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAP-0421 — Lab Sample ID: 550-162152-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.73		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.065		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.00086	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-0421 — Lab Sample ID: 550-162152-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.77		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2000	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0027	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0017	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0095	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.019	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.025	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0015	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.077		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAPTD-0421 — Lab Sample ID: 550-162152-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.71		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.0096	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-Petroglyph-0421 — Lab Sample ID: 550-162152-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.15	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00013	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0041	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0090	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0022	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-Petroglyph-0421 (Continued) Lab Sample ID: 550-162152-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.019	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0014	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.094		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	83		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	83		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-Petroglyph-0421 Lab Sample ID: 550-162152-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-TanWash-0421 Lab Sample ID: 550-162152-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	21		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00014	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0021	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.034	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0015	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.026	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.090	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0018	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.16		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	90		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	90		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TanWash-0421 Lab Sample ID: 550-162152-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TanWash-0421 (Continued)

Lab Sample ID: 550-162152-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	2.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.011	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-42

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.68		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0020	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.011	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.00098	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0093	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0078	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.025	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0011	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.075		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	17.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.62		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.0090		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M52-0421
Date Collected: 04/17/21 09:15
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162152-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3600	D2	400	100	mg/L			04/22/21 22:00	200
Fluoride	1.5	D1	0.80	0.095	mg/L			04/22/21 21:42	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 16:53	5
Sulfate	3000	D2	400	85	mg/L			04/22/21 22:00	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:14	1
Lithium	0.27		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:36	1
Boron	3.5		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:14	1
Calcium	780		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:14	1
Iron	4.0		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:14	1
Manganese	2.4		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:14	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:44	2
Arsenic	0.0017	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:20	4
Barium	0.017	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:44	2
Cadmium	0.00088	D1	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:44	2
Chromium	0.0052	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:44	2
Cobalt	0.059	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:44	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:44	2
Molybdenum	0.058	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:44	2
Selenium	0.0013	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:44	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:44	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.14		0.050	0.039	mg/L			04/20/21 10:31	1
Total Dissolved Solids	9500	D2	100	100	mg/L			04/23/21 07:38	1
pH	6.9	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	12.6	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			04/24/21 14:14	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			04/24/21 14:14	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			04/24/21 14:14	1

Client Sample ID: CH-CCR-M52-0421

Lab Sample ID: 550-162152-2
Date Collected: 04/17/21 09:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.8		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:09	1
Manganese	2.4		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0010	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:11	2
Cobalt	0.058	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:11	2

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-3
Date Collected: 04/17/21 12:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			04/22/21 22:37	200
Fluoride	2.1	D1	0.80	0.095	mg/L			04/22/21 22:19	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 17:20	5
Sulfate	3100	D2	400	85	mg/L			04/22/21 22:37	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:18	1
Lithium	0.21		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:39	1
Boron	3.2		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:18	1
Calcium	670		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:18	1
Iron	0.10		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:18	1
Manganese	4.1		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:18	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:46	2
Arsenic	0.0019	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:22	4
Barium	0.0083	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:46	2
Cadmium	0.00093	D1	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:46	2
Chromium	0.0020	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:46	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:46	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:46	2
Molybdenum	0.029	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:46	2
Selenium	0.0010	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:46	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.22		0.050	0.039	mg/L			04/20/21 10:33	1
Total Dissolved Solids	7800	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.3	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	11.3	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-3

Date Collected: 04/17/21 12:30
Date Received: 04/19/21 10:41
Matrix: Water

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3	M2	0.50	0.26	mg/L			04/29/21 17:39	1
Dissolved Organic Carbon - Duplicate	1.3	M2	0.50	0.26	mg/L			04/29/21 17:39	1
Dissolved Organic Carbon - Quad	1.3	M2	0.50	0.26	mg/L			04/29/21 17:39	1

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-4

Date Collected: 04/17/21 12:30
Date Received: 04/19/21 10:41
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.091	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:13	1
Manganese	4.2		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:13	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:13	2

Client Sample ID: CH-CCR-M55-0421

Lab Sample ID: 550-162152-5

Date Collected: 04/18/21 09:09
Date Received: 04/19/21 10:41
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4500	D2	400	100	mg/L			04/22/21 23:14	200
Fluoride	0.58	D1 E4	0.80	0.095	mg/L			04/22/21 22:55	2
Nitrate Nitrite as N	0.62	D1	0.25	0.11	mg/L			04/19/21 17:47	5
Sulfate	3500	D2	400	85	mg/L			04/22/21 23:14	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:21	1
Lithium	0.45		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:42	1
Boron	0.40		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:21	1
Calcium	750		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:21	1
Iron	0.13		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:21	1
Manganese	0.0038	E4	0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:21	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00026	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:48	2
Arsenic	0.0021	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:24	4
Barium	0.015	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:48	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:48	2
Chromium	0.0068	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:48	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:48	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:48	2
Molybdenum	0.0047	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:48	2
Selenium	0.13	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:48	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:48	2

Client Sample ID: CH-CCR-M55-0421

Lab Sample ID: 550-162152-5
Matrix: Water
Date Collected: 04/18/21 09:09
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:34	1
Total Dissolved Solids	**10000**	**D2**	200	200	mg/L			04/23/21 07:40	1
pH	**7.4**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**12.4**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**3.1**		0.50	0.26	mg/L			04/24/21 14:37	1
Dissolved Organic Carbon - Duplicate	**3.1**		0.50	0.26	mg/L			04/24/21 14:37	1
Dissolved Organic Carbon - Quad	**3.1**		0.50	0.26	mg/L			04/24/21 14:37	1

Client Sample ID: CH-CCR-M55-0421

Lab Sample ID: 550-162152-6
Matrix: Water
Date Collected: 04/18/21 09:09
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.075**	**E4**	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:16	1
Manganese	**0.0039**	**E4**	0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:16	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0018**	**D1**	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:09	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:09	2

Client Sample ID: CH-CCR-M69-0421

Lab Sample ID: 550-162152-7
Matrix: Water
Date Collected: 04/17/21 08:35
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**	**D2**	400	100	mg/L			04/23/21 00:27	200
Fluoride	**1.3**	**D1**	0.80	0.095	mg/L			04/23/21 00:09	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 18:15	5
Sulfate	**3100**	**D2**	400	85	mg/L			04/23/21 00:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:25	1
Lithium	**0.21**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:46	1
Boron	**3.3**		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:25	1
Calcium	**690**		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:25	1
Iron	**0.50**		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:25	1
Manganese	**1.7**		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:25	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M69-0421
Lab Sample ID: 550-162152-7
Date Collected: 04/17/21 08:35
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:50	2
Arsenic	**0.0023**	**D1**	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:26	4
Barium	**0.019**	**D1**	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:50	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:50	2
Chromium	**0.0086**	**D1**	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:50	2
Cobalt	**0.017**	**D1**	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:50	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:50	2
Molybdenum	**0.020**	**D1**	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:50	2
Selenium	**0.0011**	**D1**	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:50	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:50	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:36	1
Total Dissolved Solids	**8100**	**D2**	100	100	mg/L			04/23/21 07:38	1
pH	**7.3**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**12.0**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.5**	**N1**	0.50	0.26	mg/L			04/27/21 15:45	1
Dissolved Organic Carbon - Duplicate	**1.5**	**N1**	0.50	0.26	mg/L			04/27/21 15:45	1
Dissolved Organic Carbon - Quad	**1.5**	**N1**	0.50	0.26	mg/L			04/27/21 15:45	1

Client Sample ID: CH-CCR-M69-0421
Lab Sample ID: 550-162152-8
Date Collected: 04/17/21 08:35
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.17**		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:20	1
Manganese	**0.66**		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:20	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00081**	**D1 E4**	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:15	2
Cobalt	**0.015**	**D1**	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:15	2

Client Sample ID: CH-CCR-M70-0421
Lab Sample ID: 550-162152-9
Date Collected: 04/17/21 07:53
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2200**	**D2**	400	100	mg/L			04/23/21 01:04	200
Fluoride	**1.2**	**D1**	0.80	0.095	mg/L			04/23/21 00:46	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 18:42	5

Client Sample ID: CH-CCR-M70-0421

Lab Sample ID: 550-162152-9

Date Collected: 04/17/21 07:53

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2700	D2	400	85	mg/L			04/23/21 01:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:29	1
Lithium	0.20		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:49	1
Boron	2.2		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:29	1
Calcium	680		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:29	1
Iron	0.087	E4	0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:29	1
Manganese	1.8		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:29	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:52	2
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:28	4
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:52	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:52	2
Chromium	0.0010	D1 E4	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:52	2
Cobalt	0.023	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:52	2
Lead	0.0016	D1	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:52	2
Molybdenum	0.034	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:52	2
Selenium	0.0019	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:52	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:52	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:37	1
Total Dissolved Solids	7300	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	12.7	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			04/24/21 14:59	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			04/24/21 14:59	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			04/24/21 14:59	1

Client Sample ID: CH-CCR-M70-0421

Lab Sample ID: 550-162152-10

Date Collected: 04/17/21 07:53

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.083	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:24	1
Manganese	1.9		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:24	1

Client Sample ID: CH-CCR-M70-0421

Lab Sample ID: 550-162152-10
Date Collected: 04/17/21 07:53
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00099	D1 E4	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:17	2
Cobalt	0.023	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:17	2

Client Sample ID: CH-CCR-W301-0421

Lab Sample ID: 550-162152-11
Date Collected: 04/17/21 14:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6200	D2	400	100	mg/L			04/23/21 01:41	200
Fluoride	0.34	D1 E4	0.80	0.095	mg/L			04/23/21 01:23	2
Nitrate Nitrite as N	20	D1	0.25	0.11	mg/L			04/19/21 19:10	5
Sulfate	3700	D2	400	85	mg/L			04/23/21 01:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:33	1
Lithium	0.58		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:52	1
Boron	0.60		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:33	1
Calcium	800		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:33	1
Iron	0.10		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:33	1
Manganese	1.6		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:33	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:54	2
Arsenic	0.0028	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:30	4
Barium	0.0093	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:54	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:54	2
Chromium	0.029	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:54	2
Cobalt	0.023	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:54	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:54	2
Molybdenum	0.0093	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:54	2
Selenium	0.0072	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:54	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:54	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:39	1
Total Dissolved Solids	14000	D2	200	200	mg/L			04/23/21 07:38	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	13.9	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.9		0.50	0.26	mg/L			04/24/21 15:11	1

Client Sample ID: CH-CCR-W301-0421

Lab Sample ID: 550-162152-11
Date Collected: 04/17/21 14:15
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L			04/24/21 15:11	1
Dissolved Organic Carbon - Quad	2.9		0.50	0.26	mg/L			04/24/21 15:11	1

Client Sample ID: CH-CCR-W301-0421

Lab Sample ID: 550-162152-12
Date Collected: 04/17/21 14:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.082	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:28	1
Manganese	1.6		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:28	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:19	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:19	2

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-13
Date Collected: 04/17/21 15:05
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	400	100	mg/L			04/23/21 02:18	200
Fluoride	0.95	D1	0.80	0.095	mg/L			04/23/21 01:59	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 20:32	5
Sulfate	2200	D2	400	85	mg/L			04/23/21 02:18	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:37	1
Lithium	0.40		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:09	1
Boron	0.60		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:37	1
Calcium	680		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:37	1
Iron	0.18		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:37	1
Manganese	0.053		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:37	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:56	2
Arsenic	0.0021	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:32	4
Barium	0.014	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:56	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:56	2
Chromium	0.025	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:56	2
Cobalt	0.0048	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:56	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:56	2
Molybdenum	0.0084	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:56	2
Selenium	0.0011	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:56	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:56	2

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-13
Matrix: Water

Date Collected: 04/17/21 15:05
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:49	1
Total Dissolved Solids	**8000**	**D2**	100	100	mg/L			04/23/21 07:38	1
pH	**7.4**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**13.5**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.83**		0.50	0.26	mg/L			04/24/21 15:24	1
Dissolved Organic Carbon - Duplicate	**0.81**		0.50	0.26	mg/L			04/24/21 15:24	1
Dissolved Organic Carbon - Quad	**0.83**		0.50	0.26	mg/L			04/24/21 15:24	1

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-14
Matrix: Water

Date Collected: 04/17/21 15:05
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.059**	**E4**	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:32	1
Manganese	**0.058**		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:32	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0013**	**D1**	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:22	2
Cobalt	**0.0047**	**D1**	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:22	2

Client Sample ID: CH-CCR-W303-0421

Lab Sample ID: 550-162152-15
Matrix: Water

Date Collected: 04/17/21 13:31
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**	**D2**	400	100	mg/L			04/23/21 02:55	200
Fluoride	**0.50**	**D1 E4**	0.80	0.095	mg/L			04/23/21 02:36	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 20:59	5
Sulfate	**3400**	**D2**	400	85	mg/L			04/23/21 02:55	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:40	1
Lithium	**0.33**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:13	1
Boron	**3.4**		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:40	1
Calcium	**650**		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:40	1
Iron	**0.17**		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:40	1
Manganese	**0.99**		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:40	1

Client Sample ID: CH-CCR-W303-0421

Lab Sample ID: 550-162152-15
Date Collected: 04/17/21 13:31
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 13:59	2
Arsenic	0.0019	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:35	4
Barium	0.0046	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 13:59	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 13:59	2
Chromium	0.036	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 13:59	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 13:59	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 13:59	2
Molybdenum	0.050	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 13:59	2
Selenium	0.0019	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 13:59	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 13:59	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:54	1
Total Dissolved Solids	8700	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.5	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	14.4	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			04/24/21 15:37	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			04/24/21 15:37	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			04/24/21 15:37	1

Client Sample ID: CH-CCR-W303-0421

Lab Sample ID: 550-162152-16
Date Collected: 04/17/21 13:31
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:35	1
Manganese	0.88		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:35	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:24	2
Cobalt	0.023	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:24	2

Client Sample ID: CH-CCR-W304-0421

Lab Sample ID: 550-162152-17
Date Collected: 04/18/21 06:39
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2800	D2	400	100	mg/L			04/23/21 04:45	200
Fluoride	0.24	D1 E4	0.80	0.095	mg/L			04/23/21 04:27	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 21:27	5

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W304-0421

Lab Sample ID: 550-162152-17

Date Collected: 04/18/21 06:39

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2800	D2	400	85	mg/L			04/23/21 04:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:52	1
Lithium	0.42		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:16	1
Boron	0.45		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:52	1
Calcium	600		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:52	1
Iron	0.15		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:52	1
Manganese	0.81		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:52	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:01	2
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:37	4
Barium	0.0076	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:01	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:01	2
Chromium	0.0079	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:01	2
Cobalt	0.0040	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:01	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:01	2
Molybdenum	0.0046	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:01	2
Selenium	0.0016	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:01	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:01	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:55	1
Total Dissolved Solids	8000	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	14.6	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.70	N1	0.50	0.26	mg/L			04/27/21 15:59	1
Dissolved Organic Carbon - Duplicate	0.67	N1	0.50	0.26	mg/L			04/27/21 15:59	1
Dissolved Organic Carbon - Quad	0.70	N1	0.50	0.26	mg/L			04/27/21 15:59	1

Client Sample ID: CH-CCR-W304-0421

Lab Sample ID: 550-162152-18

Date Collected: 04/18/21 06:39

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.10		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:39	1
Manganese	0.81		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:39	1

Client Sample ID: CH-CCR-W304-0421

Lab Sample ID: 550-162152-18

Date Collected: 04/18/21 06:39
Date Received: 04/19/21 10:41
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00072	D1 E4	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:26	2
Cobalt	0.0036	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:26	2

Client Sample ID: CH-CCR-W305-0421

Lab Sample ID: 550-162152-19

Date Collected: 04/17/21 11:17
Date Received: 04/19/21 10:41
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2 M1	400	100	mg/L			04/23/21 05:22	200
Fluoride	0.45	D1 E4	0.80	0.095	mg/L			04/23/21 05:03	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 21:54	5
Sulfate	2300	D2 M1	400	85	mg/L			04/23/21 05:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:55	1
Lithium	0.23		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:19	1
Boron	0.37		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:55	1
Calcium	730		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:55	1
Iron	0.36		0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:55	1
Manganese	6.9		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:55	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:03	2
Arsenic	0.0018	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:39	4
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:03	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:03	2
Chromium	0.0012	D1 E4	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:03	2
Cobalt	0.018	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:03	2
Lead	0.0017	D1	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:03	2
Molybdenum	0.023	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:03	2
Selenium	0.0012	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:03	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:03	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:30	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.15		0.050	0.039	mg/L			04/20/21 10:57	1
Total Dissolved Solids	6800	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	15.5	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6	M2	0.50	0.26	mg/L			04/24/21 13:38	1

Client Sample ID: CH-CCR-W305-0421

Lab Sample ID: 550-162152-19
Date Collected: 04/17/21 11:17
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.6	M2	0.50	0.26	mg/L			04/24/21 13:38	1
Dissolved Organic Carbon - Quad	1.6	M2	0.50	0.26	mg/L			04/24/21 13:38	1

Client Sample ID: CH-CCR-W305-0421

Lab Sample ID: 550-162152-20
Date Collected: 04/17/21 11:17
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.33		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:43	1
Manganese	6.7		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:43	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:28	2
Cobalt	0.017	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:28	2

Client Sample ID: CH-CCR-FD03-0421

Lab Sample ID: 550-162152-21
Date Collected: 04/17/21 12:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			04/23/21 23:13	200
Fluoride	2.1	D1	0.80	0.095	mg/L			04/23/21 06:17	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 22:21	5
Sulfate	2900	D2	400	85	mg/L			04/23/21 23:13	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 23:59	1
Lithium	0.21		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:23	1
Boron	3.2		0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 23:59	1
Calcium	680		2.0	0.013	mg/L		04/20/21 10:16	04/22/21 23:59	1
Iron	0.064	E4	0.10	0.010	mg/L		04/20/21 10:16	04/22/21 23:59	1
Manganese	4.1		0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 23:59	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:09	2
Arsenic	0.0024	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:45	4
Barium	0.0083	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:09	2
Cadmium	0.00079	D1	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:09	2
Chromium	0.0017	D1 E4	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:09	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:09	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:09	2
Molybdenum	0.027	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:09	2
Selenium	0.00096	D1 E4	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:09	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:09	2

Client Sample ID: CH-CCR-FD03-0421
Lab Sample ID: 550-162152-21
Date Collected: 04/17/21 12:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:35	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.11		0.050	0.039	mg/L			04/20/21 10:58	1
Total Dissolved Solids	7500	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.3	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	13.9	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			04/24/21 16:31	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			04/24/21 16:31	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			04/24/21 16:31	1

Client Sample ID: CH-CCR-FD03-0421
Lab Sample ID: 550-162152-22
Date Collected: 04/17/21 12:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.056	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:54	1
Manganese	4.2		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:54	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:36	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:36	2

Client Sample ID: CH-CCR-W306-0421
Lab Sample ID: 550-162152-23
Date Collected: 04/17/21 10:07
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1900	D2	400	100	mg/L			04/23/21 11:17	200
Fluoride	0.94	D1	0.80	0.095	mg/L			04/23/21 10:58	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 22:49	5
Sulfate	12000	D2	400	85	mg/L			04/23/21 11:17	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:03	1
Lithium	0.79		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:26	1
Boron	0.99		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:03	1
Calcium	430		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:03	1
Iron	0.11		0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:03	1
Manganese	0.011		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:03	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0421

Lab Sample ID: 550-162152-23
Date Collected: 04/17/21 10:07
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00023	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:11	2
Arsenic	0.0056	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:47	4
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:11	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:11	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:11	2
Cobalt	0.0012	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:11	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:11	2
Molybdenum	0.041	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:11	2
Selenium	0.0044	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:11	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:11	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 11:00	1
Total Dissolved Solids	18000	D2	200	200	mg/L			04/23/21 07:40	1
pH	7.9	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	12.7	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			04/24/21 16:42	1
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L			04/24/21 16:42	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			04/24/21 16:42	1

Client Sample ID: CH-CCR-W306-0421

Lab Sample ID: 550-162152-24
Date Collected: 04/17/21 10:07
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 05:58	1
Manganese	0.0091	E4	0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 05:58	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0048	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:38	2
Cobalt	0.00091	D1 E4	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:38	2

Client Sample ID: CH-CCR-W307-0421

Lab Sample ID: 550-162152-25
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			04/23/21 12:30	200
Fluoride	0.38	D1 E4	0.80	0.095	mg/L			04/23/21 12:12	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 23:16	5

Client Sample ID: CH-CCR-W307-0421
Lab Sample ID: 550-162152-25
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	2600	D2	400	85	mg/L			04/23/21 12:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:07	1
Lithium	0.26		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:29	1
Boron	2.6		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:07	1
Calcium	800		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:07	1
Iron	0.19		0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:07	1
Manganese	0.040		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:07	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:13	2
Arsenic	0.0020	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:49	4
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:13	2
Cadmium	0.00013	D1 E4	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:13	2
Chromium	0.0055	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:13	2
Cobalt	0.076	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:13	2
Lead	0.00078	D1 E4	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:13	2
Molybdenum	0.019	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:13	2
Selenium	0.0018	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:13	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:13	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 11:01	1
Total Dissolved Solids	8300	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.3	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	15.9	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			04/24/21 16:54	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			04/24/21 16:54	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			04/24/21 16:54	1

Client Sample ID: CH-CCR-W307-0421
Lab Sample ID: 550-162152-26
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.16		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:02	1
Manganese	0.040		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:02	1

Client Sample ID: CH-CCR-W307-0421

Lab Sample ID: 550-162152-26

Date Collected: 04/18/21 07:30
Date Received: 04/19/21 10:41
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0014	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:40	2
Cobalt	0.073	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:40	2

Client Sample ID: CH-CCR-W308-0421

Lab Sample ID: 550-162152-27

Date Collected: 04/18/21 08:25
Date Received: 04/19/21 10:41
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400	D2	400	100	mg/L			04/23/21 13:07	200
Fluoride	0.46	D1 E4	0.80	0.095	mg/L			04/23/21 12:49	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/19/21 23:44	5
Sulfate	2700	D2	400	85	mg/L			04/23/21 13:07	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:11	1
Lithium	0.42		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:46	1
Boron	0.42		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:11	1
Calcium	840		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:11	1
Iron	0.071	E4	0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:11	1
Manganese	0.19		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:11	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:15	2
Arsenic	0.0018	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:51	4
Barium	0.0081	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:15	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:15	2
Chromium	0.011	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:15	2
Cobalt	0.00077	D1 E4	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:15	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:15	2
Molybdenum	0.0025	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:15	2
Selenium	0.0080	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:15	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:15	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 11:03	1
Total Dissolved Solids	8800	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.2	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	16.4	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L			04/24/21 17:07	1

Client Sample ID: CH-CCR-W308-0421

Lab Sample ID: 550-162152-27
Date Collected: 04/18/21 08:25
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L			04/24/21 17:07	1
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L			04/24/21 17:07	1

Client Sample ID: CH-CCR-W308-0421

Lab Sample ID: 550-162152-28
Date Collected: 04/18/21 08:25
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.049	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:06	1
Manganese	0.19		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:06	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0013	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:42	2
Cobalt	0.00080	D1 E4	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:42	2

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-29
Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	100	mg/L			04/23/21 13:44	200
Fluoride	1.0	D1	0.80	0.095	mg/L			04/23/21 13:26	2
Nitrate Nitrite as N	2.8	D1	0.25	0.11	mg/L			04/20/21 00:11	5
Sulfate	3200	D2	400	85	mg/L			04/23/21 13:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:14	1
Lithium	0.36		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 11:55	1
Boron	0.45		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:14	1
Calcium	470		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:14	1
Iron	0.11		0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:14	1
Manganese	0.60		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:14	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:17	2
Arsenic	0.0015	D1 E4	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:53	4
Barium	0.0076	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:17	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:17	2
Chromium	0.042	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:17	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:17	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:17	2
Molybdenum	0.010	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:17	2
Selenium	0.20	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:17	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:17	2

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-29
Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 11:04	1
Total Dissolved Solids	**7300**	**D2**	100	100	mg/L			04/23/21 07:40	1
pH	**7.4**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**16.6**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.68**		0.50	0.26	mg/L			04/24/21 17:21	1
Dissolved Organic Carbon - Duplicate	**0.68**		0.50	0.26	mg/L			04/24/21 17:21	1
Dissolved Organic Carbon - Quad	**0.68**		0.50	0.26	mg/L			04/24/21 17:21	1

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-30
Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.076**	**E4**	0.10	0.010	mg/L		04/21/21 19:58	04/25/21 09:50	1
Manganese	**0.57**		0.010	0.00019	mg/L		04/21/21 19:58	04/22/21 21:39	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00083**	**D1 E4**	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:44	2
Cobalt	**0.00016**	**D1 E4**	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:44	2

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-31
Date Collected: 04/16/21 14:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	400	100	mg/L			04/23/21 14:21	200
Fluoride	**1.1**	**D1**	0.80	0.095	mg/L			04/23/21 14:02	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 15:14	5
Sulfate	**2300**	**D2**	400	85	mg/L			04/23/21 14:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:18	1
Lithium	**0.32**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 11:59	1
Boron	**1.3**		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:18	1
Calcium	**770**		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:18	1
Iron	**0.12**		0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:18	1
Manganese	**0.096**		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:18	1

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-31
Date Collected: 04/16/21 14:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:19	2
Arsenic	0.0020	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:55	4
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:19	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:19	2
Chromium	0.032	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:19	2
Cobalt	0.029	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:19	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:19	2
Molybdenum	0.015	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:19	2
Selenium	0.0018	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:19	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:19	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 11:06	1
Total Dissolved Solids	7800	D2	100	100	mg/L			04/23/21 07:38	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	16.7	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			04/24/21 17:35	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			04/24/21 17:35	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			04/24/21 17:35	1

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-32
Date Collected: 04/16/21 14:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.059	E4	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:10	1
Manganese	0.070		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:10	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011	D1	0.0010	0.00049	mg/L		04/22/21 19:49	04/27/21 16:47	2
Cobalt	0.027	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:47	2

Client Sample ID: CH-CCR-W317-0421

Lab Sample ID: 550-162152-33
Date Collected: 04/14/21 10:27
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1400	D2	400	100	mg/L			04/23/21 14:58	200
Fluoride	0.35	D1 E4	0.80	0.095	mg/L			04/23/21 14:39	2
Sulfate	700	D2	400	85	mg/L			04/23/21 14:58	200

Client Sample ID: CH-CCR-W317-0421

Lab Sample ID: 550-162152-33

Date Collected: 04/14/21 10:27

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:22	1
Lithium	**0.060**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:10	1
Boron	**0.19**		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:22	1
Calcium	**340**		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:22	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:21	2
Arsenic	**0.0079**	**D1**	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:57	4
Barium	**0.034**	**D1**	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:21	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:21	2
Chromium	**0.0055**	**D1**	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:21	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:21	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:21	2
Molybdenum	**0.0030**	**D1**	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:21	2
Selenium	**0.00096**	**D1 E4**	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:21	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:21	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2900**	**D2**	100	100	mg/L			04/20/21 08:01	1
pH	**7.6**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**16.7**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample ID: CH-CCR-BAP-0421

Lab Sample ID: 550-162152-34

Date Collected: 04/16/21 10:10

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1800**	**D2**	400	100	mg/L			04/23/21 22:19	200
Fluoride	**3.3**	**D1**	0.80	0.095	mg/L			04/23/21 22:01	2
Nitrate Nitrite as N	**0.14**	**D1 E4**	0.25	0.11	mg/L			04/20/21 15:41	5
Sulfate	**2900**	**D2**	400	85	mg/L			04/23/21 22:19	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 10:16	04/23/21 00:26	1
Lithium	**0.17**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:13	1
Boron	**3.4**		0.050	0.0025	mg/L		04/20/21 10:16	04/23/21 00:26	1
Calcium	**560**		2.0	0.013	mg/L		04/20/21 10:16	04/23/21 00:26	1
Iron	**0.77**		0.10	0.010	mg/L		04/20/21 10:16	04/23/21 00:26	1
Magnesium	**300**		2.0	0.044	mg/L		04/20/21 10:16	04/23/21 00:26	1
Manganese	**0.064**		0.010	0.00019	mg/L		04/20/21 10:16	04/23/21 00:26	1
Potassium	**30**		0.50	0.17	mg/L		04/20/21 10:16	04/25/21 09:19	1
Sodium	**1400**	**D2**	1.0	0.061	mg/L		04/20/21 10:16	04/25/21 09:15	2

Client Sample ID: CH-CCR-BAP-0421

Lab Sample ID: 550-162152-34
Date Collected: 04/16/21 10:10
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0030	D1	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:24	2
Arsenic	0.016	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 10:59	4
Barium	0.27	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:24	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:24	2
Chromium	0.0020	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:24	2
Cobalt	0.00061	D1 E4	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:24	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:24	2
Molybdenum	0.034	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:24	2
Selenium	0.017	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:24	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:24	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 09:53	1
Alkalinity as CaCO3	170		6.0	6.0	mg/L			04/24/21 16:07	1
Bicarbonate Alkalinity as CaCO3	120		6.0	6.0	mg/L			04/24/21 16:07	1
Carbonate Alkalinity as CaCO3	46		6.0	6.0	mg/L			04/24/21 16:07	1
Alkalinity, Phenolphthalein	23		6.0	6.0	mg/L			04/24/21 16:07	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:07	1
Total Dissolved Solids	6800	D2	100	100	mg/L			04/23/21 07:38	1
pH	8.9	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	16.8	H5	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	2.5		0.50	0.26	mg/L			04/23/21 04:10	1

Client Sample ID: CH-CCR-BAP-0421

Lab Sample ID: 550-162152-35
Date Collected: 04/16/21 10:10
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.73		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:13	1
Manganese	0.065		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.00086	D1 E4	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:49	2

Client Sample ID: CH-CCR-BAPTD-0421

Lab Sample ID: 550-162152-36
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			04/23/21 22:56	200
Fluoride	3.1	D1	0.80	0.095	mg/L			04/23/21 22:38	2
Nitrate Nitrite as N	ND	D1 E8	0.25	0.11	mg/L			04/20/21 16:09	5
Sulfate	3200	D2	400	85	mg/L			04/23/21 22:56	200

Client Sample ID: CH-CCR-BAPTD-0421

Lab Sample ID: 550-162152-36
Date Collected: 04/17/21 11:45
Date Received: 04/19/21 10:41
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:47	1
Lithium	**0.23**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:16	1
Boron	**4.3**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:47	1
Calcium	**700**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:47	1
Iron	**0.77**		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:47	1
Magnesium	**280**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:47	1
Manganese	**2.9**		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:47	1
Potassium	**17**		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:47	1
Sodium	**2000**	**D2**	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 17:41	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:26	2
Arsenic	**0.0027**	**D1**	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 11:02	4
Barium	**0.012**	**D1**	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:26	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:26	2
Chromium	**0.0017**	**D1 E4**	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:26	2
Cobalt	**0.0095**	**D1**	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:26	2
Lead	**0.019**	**D1**	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:26	2
Molybdenum	**0.025**	**D1**	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:26	2
Selenium	**0.0015**	**D1**	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:26	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:26	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.077**		0.050	0.039	mg/L			04/23/21 08:23	1
Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			04/24/21 16:32	1
Bicarbonate Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			04/24/21 16:32	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:32	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 16:32	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:32	1
Total Dissolved Solids	**8700**	**D2**	100	100	mg/L			04/23/21 07:40	1
pH	**7.6**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**17.2**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	**1.4**		0.50	0.26	mg/L			04/23/21 04:21	1

Client Sample ID: CH-CCR-BAPTD-0421

Lab Sample ID: 550-162152-37
Date Collected: 04/17/21 11:45
Date Received: 04/19/21 10:41
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.71**		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:17	1
Manganese	**3.0**		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:17	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-0421

Lab Sample ID: 550-162152-37
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0096	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:51	2

Client Sample ID: CH-CCR-Petroglyph-0421

Lab Sample ID: 550-162152-38
Date Collected: 04/16/21 16:10
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	100	mg/L			04/23/21 23:33	200
Fluoride	3.6	D1	0.80	0.095	mg/L			04/23/21 23:15	2
Nitrate Nitrite as N	0.15	D1 E4	0.25	0.11	mg/L			04/20/21 16:36	5
Sulfate	3200	D2	400	85	mg/L			04/23/21 23:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:50	1
Lithium	0.20		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:20	1
Boron	3.6		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:50	1
Calcium	720		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:50	1
Iron	0.16		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:50	1
Magnesium	260		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:50	1
Manganese	3.1		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:50	1
Potassium	18		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:50	1
Sodium	1700	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 17:45	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00013	D1 E4	0.0020	0.000087	mg/L		04/20/21 17:26	04/26/21 14:28	2
Arsenic	0.0041	D1	0.0020	0.00099	mg/L		04/20/21 17:26	04/26/21 11:04	4
Barium	0.0090	D1	0.0010	0.00052	mg/L		04/20/21 17:26	04/26/21 14:28	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 17:26	04/26/21 14:28	2
Chromium	0.0022	D1	0.0020	0.00087	mg/L		04/20/21 17:26	04/26/21 14:28	2
Cobalt	0.019	D1	0.0010	0.00013	mg/L		04/20/21 17:26	04/26/21 14:28	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 17:26	04/26/21 14:28	2
Molybdenum	0.034	D1	0.0010	0.00040	mg/L		04/20/21 17:26	04/26/21 14:28	2
Selenium	0.0014	D1	0.0010	0.00015	mg/L		04/20/21 17:26	04/26/21 14:28	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 17:26	04/26/21 14:28	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.094		0.050	0.039	mg/L			04/23/21 08:25	1
Alkalinity as CaCO3	83		6.0	6.0	mg/L			04/24/21 16:41	1
Bicarbonate Alkalinity as CaCO3	83		6.0	6.0	mg/L			04/24/21 16:41	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:41	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 16:41	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:41	1
Total Dissolved Solids	7900	D2	100	100	mg/L			04/23/21 07:38	1

Client Sample ID: CH-CCR-Petroglyph-0421

Lab Sample ID: 550-162152-38
Matrix: Water

Date Collected: 04/16/21 16:10
Date Received: 04/19/21 10:41

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	17.6	H5	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	1.7		0.50	0.26	mg/L			04/23/21 04:33	1

Client Sample ID: CH-CCR-Petroglyph-0421

Lab Sample ID: 550-162152-39
Matrix: Water

Date Collected: 04/16/21 16:10
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.12		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:21	1
Manganese	3.0		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:21	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.018	D1	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:53	2

Client Sample ID: CH-CCR-TanWash-0421

Lab Sample ID: 550-162152-40
Matrix: Water

Date Collected: 04/16/21 15:35
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	100	mg/L			04/24/21 00:10	200
Fluoride	4.0	D1	0.80	0.095	mg/L			04/23/21 23:51	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 17:03	5
Sulfate	3300	D2	400	85	mg/L			04/24/21 00:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:54	1
Lithium	0.23		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:23	1
Boron	4.1		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:54	1
Calcium	730		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:54	1
Iron	2.0		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:54	1
Magnesium	300		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:54	1
Manganese	2.3		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:54	1
Potassium	21		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:54	1
Sodium	1800	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 17:49	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00014	D1 E4	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:14	2
Arsenic	0.0021	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:14	2
Barium	0.034	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:14	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:14	2
Chromium	0.0015	D1 E4	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:14	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:14	2
Lead	0.026	D1	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:14	2
Molybdenum	0.090	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:14	2
Selenium	0.0018	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:14	2

Client Sample ID: CH-CCR-TanWash-0421

Lab Sample ID: 550-162152-40
Date Collected: 04/16/21 15:35
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:14	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.16**		0.050	0.039	mg/L			04/23/21 08:26	1
Alkalinity as CaCO3	**90**		6.0	6.0	mg/L			04/24/21 16:50	1
Bicarbonate Alkalinity as CaCO3	**90**		6.0	6.0	mg/L			04/24/21 16:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 16:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:50	1
Total Dissolved Solids	**7900**	**D2**	100	100	mg/L			04/23/21 07:38	1
pH	**7.2**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**17.8**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	**1.3**		0.50	0.26	mg/L			04/23/21 04:45	1

Client Sample ID: CH-CCR-TanWash-0421

Lab Sample ID: 550-162152-41
Date Collected: 04/16/21 15:35
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**1.8**		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:25	1
Manganese	**2.2**		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:25	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	**0.011**	**D1**	0.0010	0.00013	mg/L		04/22/21 19:49	04/27/21 16:55	2

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-42
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	400	100	mg/L			04/24/21 02:00	200
Fluoride	**3.1**	**D1**	0.80	0.095	mg/L			04/24/21 01:42	2
Nitrate Nitrite as N	ND	D1 E8	0.25	0.11	mg/L			04/20/21 17:31	5
Sulfate	**3100**	**D2**	400	85	mg/L			04/24/21 02:00	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:58	1
Lithium	**0.25**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:40	1
Boron	**4.3**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:58	1
Calcium	**710**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:58	1
Iron	**0.68**		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:58	1
Magnesium	**280**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:58	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-42
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	2.8		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:58	1
Potassium	17		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:58	1
Sodium	2100	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 17:52	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:17	2
Arsenic	0.0020	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:17	2
Barium	0.011	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:17	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:17	2
Chromium	0.00098	D1 E4	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:17	2
Cobalt	0.0093	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:17	2
Lead	0.0078	D1	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:17	2
Molybdenum	0.025	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:17	2
Selenium	0.0011	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:17	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:17	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.075		0.050	0.039	mg/L			04/23/21 08:28	1
Alkalinity as CaCO3	160		6.0	6.0	mg/L			04/24/21 16:58	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			04/24/21 16:58	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:58	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 16:58	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 16:58	1
Total Dissolved Solids	8200	D2	100	100	mg/L			04/23/21 07:40	1
pH	7.5	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	17.5	H5	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	1.3		0.50	0.26	mg/L			04/23/21 04:57	1

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-43
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.62		0.10	0.010	mg/L		04/21/21 19:49	04/25/21 06:29	1
Manganese	2.8		0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 06:29	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0090		0.00050	0.000063	mg/L		04/22/21 20:34	04/27/21 15:52	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-239835/2
Matrix: Water
Analysis Batch: 239835

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/19/21 12:18	1

Lab Sample ID: LCS 550-239835/5
Matrix: Water
Analysis Batch: 239835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.35		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-239835/6
Matrix: Water
Analysis Batch: 239835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.39		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-161790-B-1 MS T
Matrix: Water
Analysis Batch: 239835

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	4.7	D1	40.0	48.9	D1	mg/L		111	80 - 120

Lab Sample ID: 550-161790-B-1 MSD T
Matrix: Water
Analysis Batch: 239835

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	4.7	D1	40.0	45.4	D1	mg/L		102	80 - 120	7	20

Lab Sample ID: MB 550-239973/1030
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/21/21 00:22	1

Lab Sample ID: MB 550-239973/2
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/20/21 11:35	1

Lab Sample ID: LCS 550-239973/5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.25		mg/L		103	90 - 110

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 550-239973/6
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.28		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-161801-I-9 MS ^5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	10	D1	40.0	50.3	D1	mg/L		101	80 - 120

Lab Sample ID: 550-161801-I-9 MSD ^5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	10	D1	40.0	50.4	D1	mg/L		101	80 - 120	0	20

Lab Sample ID: MB 550-240268/1031
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/22/21 19:33	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/22/21 19:33	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/22/21 19:33	1

Lab Sample ID: MB 550-240268/1057
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 03:31	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 03:31	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 03:31	1

Lab Sample ID: LCS 550-240268/32
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			20.0	20.5		mg/L		102	90 - 110
Fluoride			4.00	4.13		mg/L		103	90 - 110
Sulfate			20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-240268/33
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.3		mg/L		101	90 - 110	1	20
Fluoride			4.00	4.11		mg/L		103	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-240268/33
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate			20.0	20.6		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-162157-E-5 MS ^200
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6900	D2	4000	10800	D2	mg/L		96	80 - 120
Fluoride	ND	E8 D1 D5	800	852	D1	mg/L		106	80 - 120
Sulfate	2200	D2	4000	6360	D2	mg/L		104	80 - 120

Lab Sample ID: 550-162157-E-5 MSD ^200
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6900	D2	4000	10600	D2	mg/L		93	80 - 120	1	20
Fluoride	ND	E8 D1 D5	800	858	D1	mg/L		107	80 - 120	1	20
Sulfate	2200	D2	4000	6340	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-240269/1057
Matrix: Water
Analysis Batch: 240269

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 03:31	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 03:31	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 03:31	1

Lab Sample ID: LCS 550-240269/58
Matrix: Water
Analysis Batch: 240269

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			20.0	20.8		mg/L		104	90 - 110
Fluoride			4.00	4.15		mg/L		104	90 - 110
Sulfate			20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240269/59
Matrix: Water
Analysis Batch: 240269

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	2	20
Fluoride			4.00	4.12		mg/L		103	90 - 110	1	20
Sulfate			20.0	21.7		mg/L		108	90 - 110	2	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-162152-19 MS
Matrix: Water
Analysis Batch: 240269

Client Sample ID: CH-CCR-W305-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1000	D1 E2 M1	4000	6760	D2 M1	mg/L		144	80 - 120
Fluoride	0.45	E4 D1	800	851	D1	mg/L		106	80 - 120
Sulfate	1200	D1 E2 M1	4000	6610	D2 M1	mg/L		135	80 - 120

Lab Sample ID: 550-162152-19 MSD
Matrix: Water
Analysis Batch: 240269

Client Sample ID: CH-CCR-W305-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1000	D1 E2 M1	4000	6790	D2 M1	mg/L		144	80 - 120	0	20
Fluoride	0.45	E4 D1	800	856	D1	mg/L		107	80 - 120	1	20
Sulfate	1200	D1 E2 M1	4000	6650	D2 M1	mg/L		136	80 - 120	1	20

Lab Sample ID: MB 550-240343/2
Matrix: Water
Analysis Batch: 240343

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 12:15	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 12:15	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 12:15	1

Lab Sample ID: LCS 550-240343/5
Matrix: Water
Analysis Batch: 240343

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	21.6		mg/L		108	90 - 110

Lab Sample ID: LCSD 550-240343/6
Matrix: Water
Analysis Batch: 240343

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.06		mg/L		101	90 - 110	0	20
Sulfate	20.0	21.5		mg/L		107	90 - 110	0	20

Lab Sample ID: 550-162480-A-1 MS
Matrix: Water
Analysis Batch: 240343

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170	M3	20.0	177	M3	mg/L		55	80 - 120
Fluoride	0.062	E4	4.00	4.12		mg/L		101	80 - 120
Sulfate	37		20.0	57.8		mg/L		103	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-162480-A-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240343

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170	M3	20.0	177	M3	mg/L		58	80 - 120	0	20
Fluoride	0.062	E4	4.00	4.21		mg/L		104	80 - 120	2	20
Sulfate	37		20.0	58.1		mg/L		104	80 - 120	1	20

Lab Sample ID: MB 550-240345/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240345

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 16:11	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 16:11	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 16:11	1

Lab Sample ID: LCS 550-240345/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240345

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		103	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240345/6
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240345

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	1	20
Fluoride	4.00	4.18		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.3		mg/L		107	90 - 110	1	20

Lab Sample ID: 550-162157-E-1 MS ^200
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240345

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2100	D2	4000	6660	D2	mg/L		113	80 - 120
Fluoride	ND	E8 D1 D5	800	850	D1	mg/L		106	80 - 120
Sulfate	2100	D2	4000	6500	D2	mg/L		109	80 - 120

Lab Sample ID: 550-162157-E-1 MSD ^200
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240345

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2100	D2	4000	6660	D2	mg/L		113	80 - 120	0	20
Fluoride	ND	E8 D1 D5	800	867	D1	mg/L		108	80 - 120	2	20
Sulfate	2100	D2	4000	6490	D2	mg/L		109	80 - 120	0	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-240346/1030
Matrix: Water
Analysis Batch: 240346

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/24/21 00:47	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/24/21 00:47	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/24/21 00:47	1

Lab Sample ID: LCS 550-240346/31
Matrix: Water
Analysis Batch: 240346

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240346/32
Matrix: Water
Analysis Batch: 240346

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.18		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.4		mg/L		107	90 - 110	1	20

Lab Sample ID: 550-162152-42 MS
Matrix: Water
Analysis Batch: 240346

Client Sample ID: CH-CCR-FD04-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2600	D2	4000	6830	D2	mg/L		105	80 - 120
Fluoride	ND	E8 D1 D5	800	843	D1	mg/L		105	80 - 120
Sulfate	3100	D2	4000	7110	D2	mg/L		100	80 - 120

Lab Sample ID: 550-162152-42 MSD
Matrix: Water
Analysis Batch: 240346

Client Sample ID: CH-CCR-FD04-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2600	D2	4000	7230	D2	mg/L		115	80 - 120	6	20
Fluoride	ND	E8 D1 D5	800	851	D1	mg/L		106	80 - 120	1	20
Sulfate	3100	D2	4000	7560	D2	mg/L		111	80 - 120	6	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-239834/1-A
Matrix: Water
Analysis Batch: 240220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.0000900	E4	0.0010	0.000067	mg/L		04/20/21 10:16	04/22/21 22:47	1
Boron	0.00313	E4	0.050	0.0025	mg/L		04/20/21 10:16	04/22/21 22:47	1
Calcium	0.0194	E4	2.0	0.013	mg/L		04/20/21 10:16	04/22/21 22:47	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-239834/1-A
Matrix: Water
Analysis Batch: 240220

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/20/21 10:16	04/22/21 22:47	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/20/21 10:16	04/22/21 22:47	1
Manganese	0.000460	E4	0.010	0.00019	mg/L		04/20/21 10:16	04/22/21 22:47	1

Lab Sample ID: MB 550-239834/1-A
Matrix: Water
Analysis Batch: 240457

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239834

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		04/20/21 10:16	04/25/21 08:49	1
Sodium	0.435	E4	0.50	0.031	mg/L		04/20/21 10:16	04/25/21 08:49	1

Lab Sample ID: LCS 550-239834/2-A
Matrix: Water
Analysis Batch: 240220

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.990		mg/L		99	85 - 115
Boron	1.00	0.984		mg/L		98	85 - 115
Calcium	21.0	20.5		mg/L		98	85 - 115
Iron	1.00	0.956		mg/L		96	85 - 115
Magnesium	21.0	20.4		mg/L		97	85 - 115
Manganese	1.00	0.999		mg/L		100	85 - 115

Lab Sample ID: LCS 550-239834/2-A
Matrix: Water
Analysis Batch: 240457

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	20.0	19.3		mg/L		97	85 - 115
Sodium	20.0	20.0		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-239834/3-A
Matrix: Water
Analysis Batch: 240220

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.02		mg/L		102	85 - 115	3	20
Boron	1.00	0.990		mg/L		99	85 - 115	1	20
Calcium	21.0	21.0		mg/L		100	85 - 115	2	20
Iron	1.00	0.983		mg/L		98	85 - 115	3	20
Magnesium	21.0	21.0		mg/L		100	85 - 115	3	20
Manganese	1.00	1.00		mg/L		100	85 - 115	1	20

Lab Sample ID: LCSD 550-239834/3-A
Matrix: Water
Analysis Batch: 240457

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	20.0	20.0		mg/L		100	85 - 115	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-239834/3-A
Matrix: Water
Analysis Batch: 240457
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239834

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	20.6		mg/L		103	85 - 115	3	20

Lab Sample ID: 550-162072-B-7-B MS
Matrix: Water
Analysis Batch: 240220
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00048	E4	1.00	1.02		mg/L		102	70 - 130
Boron	0.17		1.00	1.20		mg/L		102	70 - 130
Calcium	130		21.0	146	M3	mg/L		82	70 - 130
Iron	0.14		1.00	1.11		mg/L		97	70 - 130
Magnesium	28		21.0	48.3		mg/L		96	70 - 130
Manganese	0.065		1.00	1.06		mg/L		100	70 - 130

Lab Sample ID: 550-162072-B-7-B MS
Matrix: Water
Analysis Batch: 240457
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	4.3		20.0	25.3		mg/L		105	70 - 130
Sodium	140		20.0	164	M3	mg/L		106	70 - 130

Lab Sample ID: 550-162072-B-7-C MSD
Matrix: Water
Analysis Batch: 240220
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00048	E4	1.00	1.04		mg/L		104	70 - 130	2	20
Boron	0.17		1.00	1.20		mg/L		102	70 - 130	0	20
Calcium	130		21.0	149	M3	mg/L		98	70 - 130	2	20
Iron	0.14		1.00	1.15		mg/L		101	70 - 130	4	20
Magnesium	28		21.0	49.3		mg/L		101	70 - 130	2	20
Manganese	0.065		1.00	1.07		mg/L		100	70 - 130	1	20

Lab Sample ID: 550-162072-B-7-C MSD
Matrix: Water
Analysis Batch: 240457
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239834

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	4.3		20.0	25.3		mg/L		105	70 - 130	0	20
Sodium	140		20.0	164	M3	mg/L		107	70 - 130	0	20

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240086
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.000110	E4	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:24	1
Boron	ND	E8	0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:24	1
Calcium	ND	E8	2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:24	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:24	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:24	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:24	1
Potassium	0.200	E4	0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:24	1

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND	E8	0.50	0.031	mg/L		04/20/21 11:10	04/22/21 17:18	1

Lab Sample ID: LCS 550-239848/2-A
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.07		mg/L		107	85 - 115
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	22.1		mg/L		105	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.8		mg/L		104	85 - 115
Manganese	1.00	1.08		mg/L		108	85 - 115
Potassium	20.0	21.2		mg/L		106	85 - 115

Lab Sample ID: LCS 550-239848/2-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-239848/3-A
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.05		mg/L		105	85 - 115	2	20
Boron	1.00	0.994		mg/L		99	85 - 115	2	20
Calcium	21.0	21.7		mg/L		103	85 - 115	2	20
Iron	1.00	1.02		mg/L		102	85 - 115	0	20
Magnesium	21.0	21.5		mg/L		102	85 - 115	2	20
Manganese	1.00	1.06		mg/L		106	85 - 115	2	20
Potassium	20.0	20.7		mg/L		104	85 - 115	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-239848/3-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239848

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	19.9		mg/L		100	85 - 115	3	20

Lab Sample ID: 550-162157-D-3-A MS
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00040	E4	1.00	1.10		mg/L		110	70 - 130
Boron	0.25		1.00	1.27		mg/L		102	70 - 130
Calcium	91	M3	21.0	108	M3	mg/L		81	70 - 130
Iron	18	M3	1.00	17.7	M3	mg/L		-24	70 - 130
Magnesium	51		21.0	70.2		mg/L		92	70 - 130
Manganese	0.30		1.00	1.38		mg/L		107	70 - 130
Potassium	4.4		20.0	27.0		mg/L		113	70 - 130

Lab Sample ID: 550-162157-D-3-A MS
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	700	M3	20.0	680	M3	mg/L		-76	70 - 130

Lab Sample ID: 550-162157-D-3-B MSD
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00040	E4	1.00	1.07		mg/L		107	70 - 130	3	20
Boron	0.25		1.00	1.23		mg/L		99	70 - 130	3	20
Calcium	91	M3	21.0	105	M3	mg/L		65	70 - 130	3	20
Iron	18	M3	1.00	17.2	M3	mg/L		-68	70 - 130	3	20
Magnesium	51		21.0	68.1		mg/L		82	70 - 130	3	20
Manganese	0.30		1.00	1.34		mg/L		103	70 - 130	3	20
Potassium	4.4		20.0	26.2		mg/L		109	70 - 130	3	20

Lab Sample ID: 550-162157-D-3-B MSD
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	700	M3	20.0	663	M3	mg/L		-161	70 - 130	3	20

Lab Sample ID: MB 550-240066/1-A
Matrix: Water
Analysis Batch: 240448

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240066

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/21/21 19:49	04/25/21 04:50	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/21/21 19:49	04/25/21 04:50	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-240066/2-A
Matrix: Water
Analysis Batch: 240448
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240066

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.983		mg/L		98	85 - 115
Manganese	1.00	0.994		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-240066/3-A
Matrix: Water
Analysis Batch: 240448
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240066

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	0.954		mg/L		95	85 - 115	3	20
Manganese	1.00	1.01		mg/L		101	85 - 115	1	20

Lab Sample ID: MB 550-240067/1-A
Matrix: Water
Analysis Batch: 240219
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.00100	E4	0.010	0.00019	mg/L		04/21/21 19:58	04/22/21 21:20	1

Lab Sample ID: MB 550-240067/1-A
Matrix: Water
Analysis Batch: 240458
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/21/21 19:58	04/25/21 09:31	1

Lab Sample ID: LCS 550-240067/2-A
Matrix: Water
Analysis Batch: 240219
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCS 550-240067/2-A
Matrix: Water
Analysis Batch: 240458
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240067

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.997		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-240067/3-A
Matrix: Water
Analysis Batch: 240219
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240067

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	1.00	0.973		mg/L		97	85 - 115	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-240067/3-A
Matrix: Water
Analysis Batch: 240458

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240067

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron			1.00	0.974		mg/L		97	85 - 115	2	20

Lab Sample ID: MB 280-534428/1-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534428

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:29	1

Lab Sample ID: LCS 280-534428/2-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534428

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium			1.00	1.00		mg/L		100	90 - 112

Lab Sample ID: 550-162157-G-14-F MS
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 534428

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.54		1.00	1.59		mg/L		106	70 - 130

Lab Sample ID: 550-162157-G-14-G MSD
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 534428

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.54		1.00	1.63		mg/L		109	70 - 130	2	20

Lab Sample ID: MB 280-534429/1-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534429

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 11:49	1

Lab Sample ID: LCS 280-534429/2-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534429

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium			1.00	1.04		mg/L		104	90 - 112

Lab Sample ID: 550-162157-B-4-F MS
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 534429

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.20		1.00	1.28		mg/L		107	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-162157-B-4-G MSD
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 534429

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.20		1.00	1.31		mg/L		110	70 - 130	2	20

Lab Sample ID: MB 280-534431/1-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:16	1

Lab Sample ID: LCS 280-534431/2-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.02		mg/L		102	90 - 112

Lab Sample ID: 550-162157-G-5-F MS
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.26		1.00	1.45		mg/L		118	70 - 130

Lab Sample ID: 550-162157-G-5-G MSD
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.26		1.00	1.39		mg/L		113	70 - 130	4	20

Lab Sample ID: 550-162152-2 MS
Matrix: Water
Analysis Batch: 240448

Client Sample ID: CH-CCR-M52-0421
Prep Type: Dissolved
Prep Batch: 240066

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	3.8		1.00	4.60		mg/L		79	70 - 130
Manganese	2.4		1.00	3.24		mg/L		86	70 - 130

Lab Sample ID: 550-162152-2 MSD
Matrix: Water
Analysis Batch: 240448

Client Sample ID: CH-CCR-M52-0421
Prep Type: Dissolved
Prep Batch: 240066

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	3.8		1.00	4.74		mg/L		92	70 - 130	3	20
Manganese	2.4		1.00	3.33		mg/L		95	70 - 130	3	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-162152-30 MS
Matrix: Water
Analysis Batch: 240219

Client Sample ID: CH-CCR-W309-0421
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.57		1.00	1.51		mg/L		94	70 - 130

Lab Sample ID: 550-162152-30 MS
Matrix: Water
Analysis Batch: 240458

Client Sample ID: CH-CCR-W309-0421
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.076	E4	1.00	1.11		mg/L		103	70 - 130

Lab Sample ID: 550-162152-30 MSD
Matrix: Water
Analysis Batch: 240219

Client Sample ID: CH-CCR-W309-0421
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.57		1.00	1.51		mg/L		94	70 - 130	0	20

Lab Sample ID: 550-162152-30 MSD
Matrix: Water
Analysis Batch: 240458

Client Sample ID: CH-CCR-W309-0421
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.076	E4	1.00	1.12		mg/L		104	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-239907/1-A
Matrix: Water
Analysis Batch: 240466

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/20/21 17:26	04/26/21 10:10	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/20/21 17:26	04/26/21 10:10	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/20/21 17:26	04/26/21 10:10	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/20/21 17:26	04/26/21 10:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/20/21 17:26	04/26/21 10:10	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/20/21 17:26	04/26/21 10:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/20/21 17:26	04/26/21 10:10	1
Molybdenum	0.000261	E4	0.00050	0.00020	mg/L		04/20/21 17:26	04/26/21 10:10	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/20/21 17:26	04/26/21 10:10	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/20/21 17:26	04/26/21 10:10	1

Lab Sample ID: MB 550-239907/1-A
Matrix: Water
Analysis Batch: 240497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/20/21 17:26	04/26/21 13:34	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/20/21 17:26	04/26/21 13:34	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/20/21 17:26	04/26/21 13:34	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/20/21 17:26	04/26/21 13:34	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-239907/1-A
Matrix: Water
Analysis Batch: 240497

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239907

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/20/21 17:26	04/26/21 13:34	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/20/21 17:26	04/26/21 13:34	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/20/21 17:26	04/26/21 13:34	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/20/21 17:26	04/26/21 13:34	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/20/21 17:26	04/26/21 13:34	1

Lab Sample ID: LCS 550-239907/2-A
Matrix: Water
Analysis Batch: 240466

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0946		mg/L		95	85 - 115
Arsenic	0.100	0.0960		mg/L		96	85 - 115
Barium	0.100	0.104		mg/L		104	85 - 115
Cadmium	0.100	0.0952		mg/L		95	85 - 115
Chromium	0.100	0.0995		mg/L		100	85 - 115
Cobalt	0.100	0.0961		mg/L		96	85 - 115
Lead	0.100	0.0945		mg/L		95	85 - 115
Molybdenum	0.100	0.102		mg/L		102	85 - 115
Selenium	0.100	0.0980		mg/L		98	85 - 115
Thallium	0.100	0.0906		mg/L		91	85 - 115

Lab Sample ID: LCS 550-239907/2-A
Matrix: Water
Analysis Batch: 240497

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0956		mg/L		96	85 - 115
Barium	0.100	0.106		mg/L		106	85 - 115
Cadmium	0.100	0.0957		mg/L		96	85 - 115
Chromium	0.100	0.0969		mg/L		97	85 - 115
Cobalt	0.100	0.0935		mg/L		93	85 - 115
Lead	0.100	0.0971		mg/L		97	85 - 115
Molybdenum	0.100	0.103		mg/L		103	85 - 115
Selenium	0.100	0.0970		mg/L		97	85 - 115
Thallium	0.100	0.0936		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-239907/3-A
Matrix: Water
Analysis Batch: 240466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0938		mg/L		94	85 - 115	1	20
Arsenic	0.100	0.0947		mg/L		95	85 - 115	1	20
Barium	0.100	0.104		mg/L		104	85 - 115	1	20
Cadmium	0.100	0.0960		mg/L		96	85 - 115	1	20
Chromium	0.100	0.0969		mg/L		97	85 - 115	3	20
Cobalt	0.100	0.0951		mg/L		95	85 - 115	1	20
Lead	0.100	0.0979		mg/L		98	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-239907/3-A
Matrix: Water
Analysis Batch: 240466

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239907

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum			0.100	0.0953		mg/L		95	85 - 115	7	20
Selenium			0.100	0.0962		mg/L		96	85 - 115	2	20
Thallium			0.100	0.0920		mg/L		92	85 - 115	2	20

Lab Sample ID: LCSD 550-239907/3-A
Matrix: Water
Analysis Batch: 240497

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239907

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony			0.100	0.0943		mg/L		94	85 - 115	1	20
Barium			0.100	0.103		mg/L		103	85 - 115	2	20
Cadmium			0.100	0.0938		mg/L		94	85 - 115	2	20
Chromium			0.100	0.0967		mg/L		97	85 - 115	0	20
Cobalt			0.100	0.0933		mg/L		93	85 - 115	0	20
Lead			0.100	0.0924		mg/L		92	85 - 115	5	20
Molybdenum			0.100	0.0951		mg/L		95	85 - 115	8	20
Selenium			0.100	0.0951		mg/L		95	85 - 115	2	20
Thallium			0.100	0.0920		mg/L		92	85 - 115	2	20

Lab Sample ID: 550-162152-1 MS
Matrix: Water
Analysis Batch: 240466

Client Sample ID: CH-CCR-M52-0421
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	E8 D1	0.100	0.0983		mg/L		98	70 - 130
Arsenic	0.0017	E4 D1	0.100	0.104		mg/L		102	70 - 130
Barium	0.016	D1	0.100	0.122		mg/L		107	70 - 130
Cadmium	0.00088	D1	0.100	0.0910		mg/L		90	70 - 130
Chromium	0.0053	D1	0.100	0.105		mg/L		100	70 - 130
Cobalt	0.059	D1	0.100	0.151		mg/L		92	70 - 130
Lead	ND	E8 D1	0.100	0.0888		mg/L		89	70 - 130
Molybdenum	0.057	D1	0.100	0.158		mg/L		101	70 - 130
Selenium	0.0013	E4 D1	0.100	0.104		mg/L		102	70 - 130
Thallium	ND	E8 D1	0.100	0.0852		mg/L		85	70 - 130

Lab Sample ID: 550-162152-1 MS
Matrix: Water
Analysis Batch: 240497

Client Sample ID: CH-CCR-M52-0421
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	E8 D1	0.100	0.104		mg/L		104	70 - 130
Barium	0.017	D1	0.100	0.132		mg/L		115	70 - 130
Cadmium	0.00088	D1	0.100	0.0945		mg/L		94	70 - 130
Chromium	0.0052	D1	0.100	0.111		mg/L		106	70 - 130
Cobalt	0.059	D1	0.100	0.156		mg/L		97	70 - 130
Lead	ND	E8 D1	0.100	0.0893		mg/L		89	70 - 130
Molybdenum	0.058	D1	0.100	0.165		mg/L		106	70 - 130
Selenium	0.0013	D1	0.100	0.114		mg/L		113	70 - 130
Thallium	ND	E8 D1	0.100	0.0868		mg/L		87	70 - 130

QC Sample Results

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-162152-1 MSD
Matrix: Water
Analysis Batch: 240466

Client Sample ID: CH-CCR-M52-0421
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	E8 D1	0.100	0.0979		mg/L		98	70 - 130	0	20
Arsenic	0.0017	E4 D1	0.100	0.105		mg/L		103	70 - 130	1	20
Barium	0.016	D1	0.100	0.124		mg/L		108	70 - 130	1	20
Cadmium	0.00088	D1	0.100	0.0932		mg/L		92	70 - 130	2	20
Chromium	0.0053	D1	0.100	0.108		mg/L		102	70 - 130	2	20
Cobalt	0.059	D1	0.100	0.154		mg/L		95	70 - 130	2	20
Lead	ND	E8 D1	0.100	0.0906		mg/L		91	70 - 130	2	20
Molybdenum	0.057	D1	0.100	0.157		mg/L		100	70 - 130	0	20
Selenium	0.0013	E4 D1	0.100	0.108		mg/L		107	70 - 130	4	20
Thallium	ND	E8 D1	0.100	0.0866		mg/L		87	70 - 130	2	20

Lab Sample ID: 550-162152-1 MSD
Matrix: Water
Analysis Batch: 240497

Client Sample ID: CH-CCR-M52-0421
Prep Type: Total/NA
Prep Batch: 239907

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	E8 D1	0.100	0.0979		mg/L		98	70 - 130	6	20
Barium	0.017	D1	0.100	0.123		mg/L		107	70 - 130	6	20
Cadmium	0.00088	D1	0.100	0.0881		mg/L		87	70 - 130	7	20
Chromium	0.0052	D1	0.100	0.105		mg/L		100	70 - 130	6	20
Cobalt	0.059	D1	0.100	0.148		mg/L		90	70 - 130	5	20
Lead	ND	E8 D1	0.100	0.0831		mg/L		83	70 - 130	7	20
Molybdenum	0.058	D1	0.100	0.158		mg/L		99	70 - 130	4	20
Selenium	0.0013	D1	0.100	0.108		mg/L		107	70 - 130	6	20
Thallium	ND	E8 D1	0.100	0.0804		mg/L		80	70 - 130	8	20

Lab Sample ID: MB 550-239913/1-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/20/21 18:25	04/26/21 12:24	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/20/21 18:25	04/26/21 12:24	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/20/21 18:25	04/26/21 12:24	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/20/21 18:25	04/26/21 12:24	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/20/21 18:25	04/26/21 12:24	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/20/21 18:25	04/26/21 12:24	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/20/21 18:25	04/26/21 12:24	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/20/21 18:25	04/26/21 12:24	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/20/21 18:25	04/26/21 12:24	1
Thallium	0.0000240	E4	0.00010	0.000013	mg/L		04/20/21 18:25	04/26/21 12:24	1

Lab Sample ID: LCS 550-239913/2-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0939		mg/L		94	85 - 115
Arsenic	0.100	0.0949		mg/L		95	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-239913/2-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.103		mg/L		103	85 - 115
Cadmium	0.100	0.0948		mg/L		95	85 - 115
Chromium	0.100	0.0969		mg/L		97	85 - 115
Cobalt	0.100	0.0945		mg/L		95	85 - 115
Lead	0.100	0.0968		mg/L		97	85 - 115
Molybdenum	0.100	0.0957		mg/L		96	85 - 115
Selenium	0.100	0.0959		mg/L		96	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-239913/3-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0938		mg/L		94	85 - 115	0	20
Arsenic	0.100	0.0927		mg/L		93	85 - 115	2	20
Barium	0.100	0.104		mg/L		104	85 - 115	0	20
Cadmium	0.100	0.0943		mg/L		94	85 - 115	1	20
Chromium	0.100	0.0956		mg/L		96	85 - 115	1	20
Cobalt	0.100	0.0926		mg/L		93	85 - 115	2	20
Lead	0.100	0.0942		mg/L		94	85 - 115	3	20
Molybdenum	0.100	0.0936		mg/L		94	85 - 115	2	20
Selenium	0.100	0.0947		mg/L		95	85 - 115	1	20
Thallium	0.100	0.0902		mg/L		90	85 - 115	5	20

Lab Sample ID: 550-162157-D-3-D MS ^2
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	E8 D1	0.100	0.0998		mg/L		100	70 - 130
Arsenic	0.0014	D1	0.100	0.103		mg/L		102	70 - 130
Barium	0.021	D1	0.100	0.129		mg/L		107	70 - 130
Cadmium	ND	E8 D1	0.100	0.0942		mg/L		94	70 - 130
Chromium	ND	E8 D1	0.100	0.102		mg/L		102	70 - 130
Cobalt	ND	E8 D1	0.100	0.0958		mg/L		96	70 - 130
Lead	ND	E8 D1	0.100	0.0903		mg/L		90	70 - 130
Molybdenum	0.0029	D1	0.100	0.106		mg/L		103	70 - 130
Selenium	ND	E8 D1	0.100	0.103		mg/L		103	70 - 130
Thallium	ND	E8 D1	0.100	0.0862		mg/L		86	70 - 130

Lab Sample ID: 550-162157-D-3-E MSD ^2
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	E8 D1	0.100	0.0998		mg/L		100	70 - 130	0	20
Arsenic	0.0014	D1	0.100	0.102		mg/L		100	70 - 130	2	20
Barium	0.021	D1	0.100	0.131		mg/L		110	70 - 130	2	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-162157-D-3-E MSD ^2
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240464
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cadmium	ND	E8 D1	0.100	0.0949		mg/L		95	70 - 130	1	20
Chromium	ND	E8 D1	0.100	0.101		mg/L		101	70 - 130	1	20
Cobalt	ND	E8 D1	0.100	0.0949		mg/L		95	70 - 130	1	20
Lead	ND	E8 D1	0.100	0.0905		mg/L		91	70 - 130	0	20
Molybdenum	0.0029	D1	0.100	0.106		mg/L		103	70 - 130	0	20
Selenium	ND	E8 D1	0.100	0.0995		mg/L		99	70 - 130	3	20
Thallium	ND	E8 D1	0.100	0.0873		mg/L		87	70 - 130	1	20

Lab Sample ID: MB 550-240197/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240635
Prep Batch: 240197

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/22/21 19:49	04/27/21 15:59	1
Cobalt	0.0000800	E4	0.00050	0.000063	mg/L		04/22/21 19:49	04/27/21 15:59	1

Lab Sample ID: LCS 550-240197/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240635
Prep Batch: 240197

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0939		mg/L		94	85 - 115
Cobalt	0.100	0.0958		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-240197/3-A
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240635
Prep Batch: 240197

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.0989		mg/L		99	85 - 115	5	20
Cobalt	0.100	0.0994		mg/L		99	85 - 115	4	20

Lab Sample ID: MB 550-240201/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240634
Prep Batch: 240201

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/22/21 20:34	04/27/21 15:08	1

Lab Sample ID: LCS 550-240201/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240634
Prep Batch: 240201

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.0965		mg/L		97	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-240201/3-A
Matrix: Water
Analysis Batch: 240634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240201

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt			0.100	0.0976		mg/L		98	85 - 115	1	20

Lab Sample ID: 550-162152-6 MS
Matrix: Water
Analysis Batch: 240635

Client Sample ID: CH-CCR-M55-0421
Prep Type: Dissolved
Prep Batch: 240197

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.0018	D1	0.100	0.105		mg/L		103	70 - 130		
Cobalt	ND	E8 D1	0.100	0.0944		mg/L		94	70 - 130		

Lab Sample ID: 550-162152-6 MSD
Matrix: Water
Analysis Batch: 240635

Client Sample ID: CH-CCR-M55-0421
Prep Type: Dissolved
Prep Batch: 240197

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0018	D1	0.100	0.111		mg/L		109	70 - 130	5	20
Cobalt	ND	E8 D1	0.100	0.0992		mg/L		99	70 - 130	5	20

Lab Sample ID: 550-162434-D-1-A MS
Matrix: Water
Analysis Batch: 240634

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 240201

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt	0.000067	E4	0.100	0.0946		mg/L		95	70 - 130		

Lab Sample ID: 550-162434-D-1-B MSD
Matrix: Water
Analysis Batch: 240634

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 240201

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.000067	E4	0.100	0.0935		mg/L		93	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-240581/1-A
Matrix: Water
Analysis Batch: 240620

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240581

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 15:45	04/27/21 19:09	1

Lab Sample ID: LCS 550-240581/2-A
Matrix: Water
Analysis Batch: 240620

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240581

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			0.00500	0.00494		mg/L		99	85 - 115		

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCSD 550-240581/3-A
Matrix: Water
Analysis Batch: 240620

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240581

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg			0.00500	0.00501		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-162152-3 MS
Matrix: Water
Analysis Batch: 240620

Client Sample ID: CH-CCR-M53-0421
Prep Type: Total/NA
Prep Batch: 240581

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00501		mg/L		100	70 - 130

Lab Sample ID: 550-162152-3 MSD
Matrix: Water
Analysis Batch: 240620

Client Sample ID: CH-CCR-M53-0421
Prep Type: Total/NA
Prep Batch: 240581

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00545		mg/L		109	70 - 130	8	20

Lab Sample ID: MB 550-240599/1-A
Matrix: Water
Analysis Batch: 240623

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240599

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/27/21 16:24	04/27/21 20:00	1

Lab Sample ID: LCS 550-240599/2-A
Matrix: Water
Analysis Batch: 240623

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240599

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg			0.00500	0.00494		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-240599/3-A
Matrix: Water
Analysis Batch: 240623

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240599

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg			0.00500	0.00500		mg/L		100	85 - 115	1	20

Lab Sample ID: 550-162000-T-1-B MS
Matrix: Water
Analysis Batch: 240623

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 240599

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00488		mg/L		98	70 - 130

Lab Sample ID: 550-162000-T-1-C MSD
Matrix: Water
Analysis Batch: 240623

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 240599

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00492		mg/L		98	70 - 130	1	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-239852/21
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 09:06	1

Lab Sample ID: MB 550-239852/60
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/20/21 10:18	1

Lab Sample ID: LCS 550-239852/22
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.04		mg/L		104	90 - 110

Lab Sample ID: LCS 550-239852/61
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-239852/23
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	1.04		mg/L		104	90 - 110	0	20

Lab Sample ID: LCSD 550-239852/62
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	0.987		mg/L		99	90 - 110	2	20

Lab Sample ID: 550-162072-D-3 MS
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	0.988		mg/L		99	90 - 110

Lab Sample ID: 550-162072-D-3 MSD
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	1.00		mg/L		100	90 - 110	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-162138-A-3 MS
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.24		1.00	1.19		mg/L		95	90 - 110

Lab Sample ID: 550-162138-A-3 MSD
Matrix: Water
Analysis Batch: 239852

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.24		1.00	1.21		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-162152-13 MS
Matrix: Water
Analysis Batch: 239852

Client Sample ID: CH-CCR-W302-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	0.961		mg/L		96	90 - 110

Lab Sample ID: 550-162152-13 MSD
Matrix: Water
Analysis Batch: 239852

Client Sample ID: CH-CCR-W302-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	0.977		mg/L		98	90 - 110	2	20

Lab Sample ID: MB 550-240280/21
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 07:34	1

Lab Sample ID: LCS 550-240280/22
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.03		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-240280/23
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-162340-B-2 MS
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.047	E4	1.00	1.04		mg/L		99	90 - 110

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-162340-B-2 MSD
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.047	E4	1.00	1.02		mg/L		98	90 - 110	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-240375/34
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1

Lab Sample ID: LCS 550-240375/33
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	266		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240375/20
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	264		mg/L		106	90 - 110	1	20

Lab Sample ID: 550-162152-34 DU
Matrix: Water
Analysis Batch: 240375

Client Sample ID: CH-CCR-BAP-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	170		170		mg/L		0.7	20
Bicarbonate Alkalinity as CaCO3	120		118		mg/L		6	20
Carbonate Alkalinity as CaCO3	46		51.9		mg/L		12	20
Alkalinity, Phenolphthalein	23		26.0		mg/L		12	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-239805/1
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/20/21 08:01	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-239805/2
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	970		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-239805/3
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	944		mg/L		94	90 - 110	3	10

Lab Sample ID: 550-161899-A-1 DU
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1100			1140		mg/L				2	10

Lab Sample ID: MB 550-240227/1
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/23/21 07:38	1

Lab Sample ID: LCS 550-240227/2
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-240227/3
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-162124-B-33 DU
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1310		mg/L				2	10

Lab Sample ID: 550-162159-C-2 DU
Matrix: Water
Analysis Batch: 240227

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2800	D2		2720	D2	mg/L				2	10

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-240231/1
Matrix: Water
Analysis Batch: 240231

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/23/21 07:40	1

Lab Sample ID: LCS 550-240231/2
Matrix: Water
Analysis Batch: 240231

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	918		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-240231/3
Matrix: Water
Analysis Batch: 240231

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	962		mg/L		96	90 - 110	5	10

Lab Sample ID: 550-162152-17 DU
Matrix: Water
Analysis Batch: 240231

Client Sample ID: CH-CCR-W304-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	8000	D2	7780	D2	mg/L		3	10

Lab Sample ID: 550-162152-19 DU
Matrix: Water
Analysis Batch: 240231

Client Sample ID: CH-CCR-W305-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6800	D2	6890	D2	mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-240071/1
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/13
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.0	98.5 - 101.5

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-240071/25
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/37
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/49
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/61
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: 550-162152-1 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: CH-CCR-M52-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	6.9	H5	7.0	H5	SU		0.6	5
Temperature	12.6	H5	12.4	H5	Degrees C		2	

Lab Sample ID: 550-162152-21 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: CH-CCR-FD03-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	H5	7.3	H5	SU		0.5	5
Temperature	13.9	H5	13.5	H5	Degrees C		3	

Lab Sample ID: 550-162152-40 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: CH-CCR-TanWash-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	H5	7.3	H5	SU		0.4	5
Temperature	17.8	H5	17.5	H5	Degrees C		2	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-240294/34
Matrix: Water
Analysis Batch: 240294
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			04/23/21 02:52	1

Lab Sample ID: LCS 550-240294/35
Matrix: Water
Analysis Batch: 240294
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	19.1		mg/L		95	90 - 110
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		95	90 - 110
Total Organic Carbon - Quad	20.0	19.1		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-240294/36
Matrix: Water
Analysis Batch: 240294
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	18.6		mg/L		93	90 - 110	3	20
Total Organic Carbon - Duplicates	20.0	18.6		mg/L		93	90 - 110	3	20
Total Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	3	20

Lab Sample ID: 550-162123-A-5 MS
Matrix: Water
Analysis Batch: 240294
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.3		20.0	24.1		mg/L		94	90 - 110
Total Organic Carbon - Duplicates	5.3		20.0	24.1		mg/L		94	90 - 110
Total Organic Carbon - Quad	5.3		20.0	24.1		mg/L		94	90 - 110

Lab Sample ID: 550-162123-A-5 MSD
Matrix: Water
Analysis Batch: 240294
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.3		20.0	24.3		mg/L		95	90 - 110	1	20
Total Organic Carbon - Duplicates	5.3		20.0	24.3		mg/L		95	90 - 110	1	20
Total Organic Carbon - Quad	5.3		20.0	24.3		mg/L		95	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-240539/5
Matrix: Water
Analysis Batch: 240539
Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-240539/5
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1

Lab Sample ID: LCS 550-240539/6
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110

Lab Sample ID: LCSD 550-240539/7
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110	1	20

Lab Sample ID: 550-162152-19 MS
Matrix: Water
Analysis Batch: 240539

Client Sample ID: CH-CCR-W305-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Duplicate	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Quad	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110

Lab Sample ID: 550-162152-19 MSD
Matrix: Water
Analysis Batch: 240539

Client Sample ID: CH-CCR-W305-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20

Lab Sample ID: MB 550-240618/5
Matrix: Water
Analysis Batch: 240618

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-240618/5
Matrix: Water
Analysis Batch: 240618

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1

Lab Sample ID: LCS 550-240618/6
Matrix: Water
Analysis Batch: 240618

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.8		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.8		mg/L		94	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-240618/7
Matrix: Water
Analysis Batch: 240618

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		94	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		94	90 - 110	0	20

Lab Sample ID: MB 550-241040/5
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1

Lab Sample ID: LCS 550-241040/6
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.0		mg/L		105	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.0		mg/L		105	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-241040/7
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110	11	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 550-241040/7
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Duplicate			20.0	18.7		mg/L		94	90 - 110	11	20
Dissolved Organic Carbon - Quad			20.0	18.7		mg/L		94	90 - 110	11	20

Lab Sample ID: 550-162152-3 MS
Matrix: Water
Analysis Batch: 241040

Client Sample ID: CH-CCR-M53-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Duplicate	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Quad	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110

Lab Sample ID: 550-162152-3 MSD
Matrix: Water
Analysis Batch: 241040

Client Sample ID: CH-CCR-M53-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 239835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	300.0	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	300.0	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	300.0	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	300.0	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	300.0	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	300.0	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	300.0	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	300.0	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	300.0	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	300.0	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	300.0	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	300.0	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	300.0	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	300.0	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	300.0	
MB 550-239835/2	Method Blank	Total/NA	Water	300.0	
LCS 550-239835/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239835/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-161790-B-1 MS T	Matrix Spike	Total/NA	Water	300.0	
550-161790-B-1 MSD T	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 239973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	300.0	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	300.0	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	300.0	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	300.0	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	300.0	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	300.0	
MB 550-239973/1030	Method Blank	Total/NA	Water	300.0	
MB 550-239973/2	Method Blank	Total/NA	Water	300.0	
LCS 550-239973/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239973/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-161801-I-9 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-161801-I-9 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 240268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	300.0	
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	300.0	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	300.0	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	300.0	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	300.0	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	300.0	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	300.0	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	300.0	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	300.0	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	300.0	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	300.0	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	300.0	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 240268 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	300.0	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	300.0	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	300.0	
MB 550-240268/1031	Method Blank	Total/NA	Water	300.0	
MB 550-240268/1057	Method Blank	Total/NA	Water	300.0	
LCS 550-240268/32	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240268/33	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162157-E-5 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-162157-E-5 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 240269

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	300.0	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	300.0	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	300.0	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	300.0	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	300.0	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	300.0	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	300.0	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	300.0	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	300.0	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	300.0	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	300.0	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	300.0	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	300.0	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	300.0	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	300.0	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	300.0	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	300.0	
MB 550-240269/1057	Method Blank	Total/NA	Water	300.0	
LCS 550-240269/58	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240269/59	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162152-19 MS	CH-CCR-W305-0421	Total/NA	Water	300.0	
550-162152-19 MSD	CH-CCR-W305-0421	Total/NA	Water	300.0	

Analysis Batch: 240343

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	300.0	
MB 550-240343/2	Method Blank	Total/NA	Water	300.0	
LCS 550-240343/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240343/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162480-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-162480-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 240345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	300.0	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	300.0	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	300.0	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	300.0	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 240345 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	300.0	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	300.0	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	300.0	
MB 550-240345/2	Method Blank	Total/NA	Water	300.0	
LCS 550-240345/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240345/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162157-E-1 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-162157-E-1 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 240346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	300.0	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	300.0	
MB 550-240346/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-240346/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240346/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162152-42 MS	CH-CCR-FD04-0421	Total/NA	Water	300.0	
550-162152-42 MSD	CH-CCR-FD04-0421	Total/NA	Water	300.0	

Metals

Prep Batch: 239834

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.7	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.7	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.7	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.7	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.7	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.7	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.7	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.7	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.7	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.7	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.7	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.7	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.7	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.7	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.7	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.7	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.7	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7	
MB 550-239834/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239834/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-239834/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162072-B-7-B MS	Matrix Spike	Total/NA	Water	200.7	
550-162072-B-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 239848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.7	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 239848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.7	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.7	
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162157-D-3-A MS	Matrix Spike	Total/NA	Water	200.7	
550-162157-D-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 239907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.8	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.8	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.8	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.8	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.8	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.8	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.8	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.8	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.8	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.8	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.8	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.8	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.8	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.8	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.8	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.8	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.8	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.8	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.8	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.8	
MB 550-239907/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-239907/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-239907/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162152-1 MS	CH-CCR-M52-0421	Total/NA	Water	200.8	
550-162152-1 MSD	CH-CCR-M52-0421	Total/NA	Water	200.8	

Prep Batch: 239913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.8	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.8	
MB 550-239913/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-239913/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-239913/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162157-D-3-D MS ^2	Matrix Spike	Total/NA	Water	200.8	
550-162157-D-3-E MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 240066

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-2	CH-CCR-M52-0421	Dissolved	Water	200.7	
550-162152-4	CH-CCR-M53-0421	Dissolved	Water	200.7	
550-162152-6	CH-CCR-M55-0421	Dissolved	Water	200.7	

Metals (Continued)

Prep Batch: 240066 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-8	CH-CCR-M69-0421	Dissolved	Water	200.7	
550-162152-10	CH-CCR-M70-0421	Dissolved	Water	200.7	
550-162152-12	CH-CCR-W301-0421	Dissolved	Water	200.7	
550-162152-14	CH-CCR-W302-0421	Dissolved	Water	200.7	
550-162152-16	CH-CCR-W303-0421	Dissolved	Water	200.7	
550-162152-18	CH-CCR-W304-0421	Dissolved	Water	200.7	
550-162152-20	CH-CCR-W305-0421	Dissolved	Water	200.7	
550-162152-22	CH-CCR-FD03-0421	Dissolved	Water	200.7	
550-162152-24	CH-CCR-W306-0421	Dissolved	Water	200.7	
550-162152-26	CH-CCR-W307-0421	Dissolved	Water	200.7	
550-162152-28	CH-CCR-W308-0421	Dissolved	Water	200.7	
550-162152-32	CH-CCR-W314-0421	Dissolved	Water	200.7	
550-162152-35	CH-CCR-BAP-0421	Dissolved	Water	200.7	
550-162152-37	CH-CCR-BAPTD-0421	Dissolved	Water	200.7	
550-162152-39	CH-CCR-Petroglyph-0421	Dissolved	Water	200.7	
550-162152-41	CH-CCR-TanWash-0421	Dissolved	Water	200.7	
550-162152-43	CH-CCR-FD04-0421	Dissolved	Water	200.7	
MB 550-240066/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-240066/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-240066/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162152-2 MS	CH-CCR-M52-0421	Dissolved	Water	200.7	
550-162152-2 MSD	CH-CCR-M52-0421	Dissolved	Water	200.7	

Prep Batch: 240067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-30	CH-CCR-W309-0421	Dissolved	Water	200.7	
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162152-30 MS	CH-CCR-W309-0421	Dissolved	Water	200.7	
550-162152-30 MSD	CH-CCR-W309-0421	Dissolved	Water	200.7	

Analysis Batch: 240086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.7 Rev 4.4	239848
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239848
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239848
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-D-3-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-D-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239848

Prep Batch: 240197

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-2	CH-CCR-M52-0421	Dissolved	Water	200.8	
550-162152-4	CH-CCR-M53-0421	Dissolved	Water	200.8	
550-162152-6	CH-CCR-M55-0421	Dissolved	Water	200.8	
550-162152-8	CH-CCR-M69-0421	Dissolved	Water	200.8	
550-162152-10	CH-CCR-M70-0421	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 240197 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-12	CH-CCR-W301-0421	Dissolved	Water	200.8	
550-162152-14	CH-CCR-W302-0421	Dissolved	Water	200.8	
550-162152-16	CH-CCR-W303-0421	Dissolved	Water	200.8	
550-162152-18	CH-CCR-W304-0421	Dissolved	Water	200.8	
550-162152-20	CH-CCR-W305-0421	Dissolved	Water	200.8	
550-162152-22	CH-CCR-FD03-0421	Dissolved	Water	200.8	
550-162152-24	CH-CCR-W306-0421	Dissolved	Water	200.8	
550-162152-26	CH-CCR-W307-0421	Dissolved	Water	200.8	
550-162152-28	CH-CCR-W308-0421	Dissolved	Water	200.8	
550-162152-30	CH-CCR-W309-0421	Dissolved	Water	200.8	
550-162152-32	CH-CCR-W314-0421	Dissolved	Water	200.8	
550-162152-35	CH-CCR-BAP-0421	Dissolved	Water	200.8	
550-162152-37	CH-CCR-BAPTD-0421	Dissolved	Water	200.8	
550-162152-39	CH-CCR-Petroglyph-0421	Dissolved	Water	200.8	
550-162152-41	CH-CCR-TanWash-0421	Dissolved	Water	200.8	
MB 550-240197/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-240197/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-240197/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162152-6 MS	CH-CCR-M55-0421	Dissolved	Water	200.8	
550-162152-6 MSD	CH-CCR-M55-0421	Dissolved	Water	200.8	

Prep Batch: 240201

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-43	CH-CCR-FD04-0421	Dissolved	Water	200.8	
MB 550-240201/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-240201/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-240201/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162434-D-1-A MS	Matrix Spike	Dissolved	Water	200.8	
550-162434-D-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

Analysis Batch: 240216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.7 Rev 4.4	239848
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239848
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239848
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-D-3-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-D-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239848

Analysis Batch: 240219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-30	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	240067
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	240067
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	240067
550-162152-30 MS	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067
550-162152-30 MSD	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067

Metals

Analysis Batch: 240220

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7 Rev 4.4	239834
MB 550-239834/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239834
LCS 550-239834/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239834
LCSD 550-239834/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239834
550-162072-B-7-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239834
550-162072-B-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239834

Analysis Batch: 240448

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-2	CH-CCR-M52-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-4	CH-CCR-M53-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-6	CH-CCR-M55-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-8	CH-CCR-M69-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-10	CH-CCR-M70-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-12	CH-CCR-W301-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-14	CH-CCR-W302-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-16	CH-CCR-W303-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-18	CH-CCR-W304-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-20	CH-CCR-W305-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-22	CH-CCR-FD03-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-24	CH-CCR-W306-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-26	CH-CCR-W307-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-28	CH-CCR-W308-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-32	CH-CCR-W314-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-35	CH-CCR-BAP-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-37	CH-CCR-BAPTD-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-39	CH-CCR-Petroglyph-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-41	CH-CCR-TanWash-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-43	CH-CCR-FD04-0421	Dissolved	Water	200.7 Rev 4.4	240066
MB 550-240066/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	240066
LCS 550-240066/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	240066
LCSD 550-240066/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	240066
550-162152-2 MS	CH-CCR-M52-0421	Dissolved	Water	200.7 Rev 4.4	240066
550-162152-2 MSD	CH-CCR-M52-0421	Dissolved	Water	200.7 Rev 4.4	240066

Metals

Analysis Batch: 240457

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7 Rev 4.4	239834
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7 Rev 4.4	239834
MB 550-239834/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239834
LCS 550-239834/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239834
LCSD 550-239834/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239834
550-162072-B-7-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239834
550-162072-B-7-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239834

Analysis Batch: 240458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-30	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	240067
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	240067
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	240067
550-162152-30 MS	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067
550-162152-30 MSD	CH-CCR-W309-0421	Dissolved	Water	200.7 Rev 4.4	240067

Analysis Batch: 240464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.8 LL	239913
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.8 LL	239913
MB 550-239913/1-A	Method Blank	Total/NA	Water	200.8 LL	239913
LCS 550-239913/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	239913
LCSD 550-239913/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	239913
550-162157-D-3-D MS ^2	Matrix Spike	Total/NA	Water	200.8 LL	239913
550-162157-D-3-E MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	239913

Analysis Batch: 240466

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.8 LL	239907
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.8 LL	239907
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.8 LL	239907
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.8 LL	239907
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.8 LL	239907
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.8 LL	239907
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.8 LL	239907
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.8 LL	239907
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.8 LL	239907
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.8 LL	239907
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.8 LL	239907
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.8 LL	239907
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.8 LL	239907
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.8 LL	239907
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.8 LL	239907
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.8 LL	239907
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.8 LL	239907
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.8 LL	239907
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.8 LL	239907
MB 550-239907/1-A	Method Blank	Total/NA	Water	200.8 LL	239907
LCS 550-239907/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	239907

Metals (Continued)

Analysis Batch: 240466 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-239907/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	239907
550-162152-1 MS	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907
550-162152-1 MSD	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907

Analysis Batch: 240497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.8 LL	239907
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.8 LL	239907
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.8 LL	239907
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.8 LL	239907
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.8 LL	239907
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.8 LL	239907
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.8 LL	239907
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.8 LL	239907
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.8 LL	239907
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.8 LL	239907
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.8 LL	239907
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.8 LL	239907
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.8 LL	239907
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.8 LL	239907
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.8 LL	239907
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.8 LL	239907
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.8 LL	239907
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.8 LL	239907
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.8 LL	239907
MB 550-239907/1-A	Method Blank	Total/NA	Water	200.8 LL	239907
LCS 550-239907/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	239907
LCSD 550-239907/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	239907
550-162152-1 MS	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907
550-162152-1 MSD	CH-CCR-M52-0421	Total/NA	Water	200.8 LL	239907

Prep Batch: 240581

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	245.1	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	245.1	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	245.1	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	245.1	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	245.1	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	245.1	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	245.1	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	245.1	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	245.1	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	245.1	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	245.1	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	245.1	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	245.1	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	245.1	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	245.1	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	245.1	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 240581 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	245.1	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	245.1	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	245.1	
MB 550-240581/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-240581/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-240581/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-162152-3 MS	CH-CCR-M53-0421	Total/NA	Water	245.1	
550-162152-3 MSD	CH-CCR-M53-0421	Total/NA	Water	245.1	

Prep Batch: 240599

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	245.1	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	245.1	
MB 550-240599/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-240599/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-240599/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-162000-T-1-B MS	Matrix Spike	Total/NA	Water	245.1	
550-162000-T-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 240620

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	245.1	240581
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	245.1	240581
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	245.1	240581
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	245.1	240581
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	245.1	240581
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	245.1	240581
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	245.1	240581
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	245.1	240581
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	245.1	240581
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	245.1	240581
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	245.1	240581
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	245.1	240581
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	245.1	240581
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	245.1	240581
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	245.1	240581
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	245.1	240581
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	245.1	240581
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	245.1	240581
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	245.1	240581
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	245.1	240581
MB 550-240581/1-A	Method Blank	Total/NA	Water	245.1	240581
LCS 550-240581/2-A	Lab Control Sample	Total/NA	Water	245.1	240581
LCSD 550-240581/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	240581
550-162152-3 MS	CH-CCR-M53-0421	Total/NA	Water	245.1	240581
550-162152-3 MSD	CH-CCR-M53-0421	Total/NA	Water	245.1	240581

Analysis Batch: 240623

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	245.1	240599
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	245.1	240599

Metals (Continued)

Analysis Batch: 240623 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-240599/1-A	Method Blank	Total/NA	Water	245.1	240599
LCS 550-240599/2-A	Lab Control Sample	Total/NA	Water	245.1	240599
LCSD 550-240599/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	240599
550-162000-T-1-B MS	Matrix Spike	Total/NA	Water	245.1	240599
550-162000-T-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	240599

Analysis Batch: 240634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-43	CH-CCR-FD04-0421	Dissolved	Water	200.8 LL	240201
MB 550-240201/1-A	Method Blank	Total/NA	Water	200.8 LL	240201
LCS 550-240201/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	240201
LCSD 550-240201/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	240201
550-162434-D-1-A MS	Matrix Spike	Dissolved	Water	200.8 LL	240201
550-162434-D-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	240201

Analysis Batch: 240635

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-2	CH-CCR-M52-0421	Dissolved	Water	200.8 LL	240197
550-162152-4	CH-CCR-M53-0421	Dissolved	Water	200.8 LL	240197
550-162152-6	CH-CCR-M55-0421	Dissolved	Water	200.8 LL	240197
550-162152-8	CH-CCR-M69-0421	Dissolved	Water	200.8 LL	240197
550-162152-10	CH-CCR-M70-0421	Dissolved	Water	200.8 LL	240197
550-162152-12	CH-CCR-W301-0421	Dissolved	Water	200.8 LL	240197
550-162152-14	CH-CCR-W302-0421	Dissolved	Water	200.8 LL	240197
550-162152-16	CH-CCR-W303-0421	Dissolved	Water	200.8 LL	240197
550-162152-18	CH-CCR-W304-0421	Dissolved	Water	200.8 LL	240197
550-162152-20	CH-CCR-W305-0421	Dissolved	Water	200.8 LL	240197
550-162152-22	CH-CCR-FD03-0421	Dissolved	Water	200.8 LL	240197
550-162152-24	CH-CCR-W306-0421	Dissolved	Water	200.8 LL	240197
550-162152-26	CH-CCR-W307-0421	Dissolved	Water	200.8 LL	240197
550-162152-28	CH-CCR-W308-0421	Dissolved	Water	200.8 LL	240197
550-162152-30	CH-CCR-W309-0421	Dissolved	Water	200.8 LL	240197
550-162152-32	CH-CCR-W314-0421	Dissolved	Water	200.8 LL	240197
550-162152-35	CH-CCR-BAP-0421	Dissolved	Water	200.8 LL	240197
550-162152-37	CH-CCR-BAPTD-0421	Dissolved	Water	200.8 LL	240197
550-162152-39	CH-CCR-Petroglyph-0421	Dissolved	Water	200.8 LL	240197
550-162152-41	CH-CCR-TanWash-0421	Dissolved	Water	200.8 LL	240197
MB 550-240197/1-A	Method Blank	Total/NA	Water	200.8 LL	240197
LCS 550-240197/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	240197
LCSD 550-240197/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	240197
550-162152-6 MS	CH-CCR-M55-0421	Dissolved	Water	200.8 LL	240197
550-162152-6 MSD	CH-CCR-M55-0421	Dissolved	Water	200.8 LL	240197

Prep Batch: 534428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.7	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.7	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.7	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.7	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.7	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 534428 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.7	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.7	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.7	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.7	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.7	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.7	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.7	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.7	
MB 280-534428/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534428/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-G-14-F MS	Matrix Spike	Total/NA	Water	200.7	
550-162157-G-14-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 534429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.7	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.7	
MB 280-534429/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534429/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-B-4-F MS	Matrix Spike	Total/NA	Water	200.7	
550-162157-B-4-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 534431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.7	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.7	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.7	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.7	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.7	
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-G-5-F MS	Matrix Spike	Total/NA	Water	200.7	
550-162157-G-5-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 534781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	200.7 Rev 4.4	534428

Metals (Continued)

Analysis Batch: 534781 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	200.7 Rev 4.4	534431
MB 280-534428/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534428
MB 280-534429/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534429
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534431
LCS 280-534428/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534428
LCS 280-534429/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534429
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-B-4-F MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-B-4-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-G-5-F MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-G-5-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-G-14-F MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	534428
550-162157-G-14-G MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	534428

General Chemistry

Analysis Batch: 239805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	SM 2540C	
MB 550-239805/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-239805/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-239805/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-161899-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 239852

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	350.1	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	350.1	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	350.1	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	350.1	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	350.1	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	350.1	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	350.1	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	350.1	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	350.1	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	350.1	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	350.1	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	350.1	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	350.1	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	350.1	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	350.1	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	350.1	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	350.1	
MB 550-239852/21	Method Blank	Total/NA	Water	350.1	

General Chemistry (Continued)

Analysis Batch: 239852 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-239852/60	Method Blank	Total/NA	Water	350.1	
LCS 550-239852/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-239852/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-239852/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-239852/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-162072-D-3 MS	Matrix Spike	Total/NA	Water	350.1	
550-162072-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-162138-A-3 MS	Matrix Spike	Total/NA	Water	350.1	
550-162138-A-3 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-162152-13 MS	CH-CCR-W302-0421	Total/NA	Water	350.1	
550-162152-13 MSD	CH-CCR-W302-0421	Total/NA	Water	350.1	

Analysis Batch: 240071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-33	CH-CCR-W317-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/61	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-162152-1 DU	CH-CCR-M52-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-21 DU	CH-CCR-FD03-0421	Total/NA	Water	SM 4500 H+ B	
550-162152-40 DU	CH-CCR-TanWash-0421	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 240227

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Total/NA	Water	SM 2540C	
550-162152-3	CH-CCR-M53-0421	Total/NA	Water	SM 2540C	
550-162152-7	CH-CCR-M69-0421	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 240227 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-9	CH-CCR-M70-0421	Total/NA	Water	SM 2540C	
550-162152-11	CH-CCR-W301-0421	Total/NA	Water	SM 2540C	
550-162152-13	CH-CCR-W302-0421	Total/NA	Water	SM 2540C	
550-162152-15	CH-CCR-W303-0421	Total/NA	Water	SM 2540C	
550-162152-31	CH-CCR-W314-0421	Total/NA	Water	SM 2540C	
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	SM 2540C	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	SM 2540C	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	SM 2540C	
MB 550-240227/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240227/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240227/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162124-B-33 DU	Duplicate	Total/NA	Water	SM 2540C	
550-162159-C-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 240231

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-5	CH-CCR-M55-0421	Total/NA	Water	SM 2540C	
550-162152-17	CH-CCR-W304-0421	Total/NA	Water	SM 2540C	
550-162152-19	CH-CCR-W305-0421	Total/NA	Water	SM 2540C	
550-162152-21	CH-CCR-FD03-0421	Total/NA	Water	SM 2540C	
550-162152-23	CH-CCR-W306-0421	Total/NA	Water	SM 2540C	
550-162152-25	CH-CCR-W307-0421	Total/NA	Water	SM 2540C	
550-162152-27	CH-CCR-W308-0421	Total/NA	Water	SM 2540C	
550-162152-29	CH-CCR-W309-0421	Total/NA	Water	SM 2540C	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	SM 2540C	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	SM 2540C	
MB 550-240231/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240231/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240231/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162152-17 DU	CH-CCR-W304-0421	Total/NA	Water	SM 2540C	
550-162152-19 DU	CH-CCR-W305-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	350.1	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	350.1	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	350.1	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	350.1	
MB 550-240280/21	Method Blank	Total/NA	Water	350.1	
LCS 550-240280/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-240280/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-162340-B-2 MS	Matrix Spike	Total/NA	Water	350.1	
550-162340-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 240294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	SM 5310B	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	SM 5310B	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	SM 5310B	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	SM 5310B	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	SM 5310B	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

General Chemistry (Continued)

Analysis Batch: 240294 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-240294/34	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-240294/35	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-240294/36	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-162123-A-5 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-162123-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 240375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-34	CH-CCR-BAP-0421	Total/NA	Water	SM 2320B	
550-162152-36	CH-CCR-BAPTD-0421	Total/NA	Water	SM 2320B	
550-162152-38	CH-CCR-Petroglyph-0421	Total/NA	Water	SM 2320B	
550-162152-40	CH-CCR-TanWash-0421	Total/NA	Water	SM 2320B	
550-162152-42	CH-CCR-FD04-0421	Total/NA	Water	SM 2320B	
MB 550-240375/34	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-240375/33	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-240375/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-162152-34 DU	CH-CCR-BAP-0421	Total/NA	Water	SM 2320B	

Analysis Batch: 240539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-1	CH-CCR-M52-0421	Dissolved	Water	SM 5310B	
550-162152-5	CH-CCR-M55-0421	Dissolved	Water	SM 5310B	
550-162152-9	CH-CCR-M70-0421	Dissolved	Water	SM 5310B	
550-162152-11	CH-CCR-W301-0421	Dissolved	Water	SM 5310B	
550-162152-13	CH-CCR-W302-0421	Dissolved	Water	SM 5310B	
550-162152-15	CH-CCR-W303-0421	Dissolved	Water	SM 5310B	
550-162152-19	CH-CCR-W305-0421	Dissolved	Water	SM 5310B	
550-162152-21	CH-CCR-FD03-0421	Dissolved	Water	SM 5310B	
550-162152-23	CH-CCR-W306-0421	Dissolved	Water	SM 5310B	
550-162152-25	CH-CCR-W307-0421	Dissolved	Water	SM 5310B	
550-162152-27	CH-CCR-W308-0421	Dissolved	Water	SM 5310B	
550-162152-29	CH-CCR-W309-0421	Dissolved	Water	SM 5310B	
550-162152-31	CH-CCR-W314-0421	Dissolved	Water	SM 5310B	
MB 550-240539/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-240539/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-240539/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-162152-19 MS	CH-CCR-W305-0421	Dissolved	Water	SM 5310B	
550-162152-19 MSD	CH-CCR-W305-0421	Dissolved	Water	SM 5310B	

Analysis Batch: 240618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-7	CH-CCR-M69-0421	Dissolved	Water	SM 5310B	
550-162152-17	CH-CCR-W304-0421	Dissolved	Water	SM 5310B	
MB 550-240618/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-240618/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-240618/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	

Analysis Batch: 241040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162152-3	CH-CCR-M53-0421	Dissolved	Water	SM 5310B	
MB 550-241040/5	Method Blank	Dissolved	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 241040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-241040/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-241040/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-162152-3 MS	CH-CCR-M53-0421	Dissolved	Water	SM 5310B	
550-162152-3 MSD	CH-CCR-M53-0421	Dissolved	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-0421

Lab Sample ID: 550-162152-1

Date Collected: 04/17/21 09:15
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/22/21 21:42	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/22/21 22:00	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 16:53	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:14	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:36	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:20	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:44	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:18	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:31	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 14:14	MEG	TAL PHX

Client Sample ID: CH-CCR-M52-0421

Lab Sample ID: 550-162152-2

Date Collected: 04/17/21 09:15
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:09	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:11	ARE	TAL PHX

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-3

Date Collected: 04/17/21 12:30
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/22/21 22:19	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/22/21 22:37	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 17:20	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:18	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:39	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:22	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-3

Date Collected: 04/17/21 12:30
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:46	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:17	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:33	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	241040	04/29/21 17:39	MEG	TAL PHX

Client Sample ID: CH-CCR-M53-0421

Lab Sample ID: 550-162152-4

Date Collected: 04/17/21 12:30
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:13	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:13	ARE	TAL PHX

Client Sample ID: CH-CCR-M55-0421

Lab Sample ID: 550-162152-5

Date Collected: 04/18/21 09:09
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/22/21 22:55	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/22/21 23:14	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 17:47	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:21	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:42	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:24	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:48	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:20	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:34	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-M55-0421
Lab Sample ID: 550-162152-5
Date Collected: 04/18/21 09:09
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 14:37	MEG	TAL PHX

Client Sample ID: CH-CCR-M55-0421
Lab Sample ID: 550-162152-6
Date Collected: 04/18/21 09:09
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:16	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:09	ARE	TAL PHX

Client Sample ID: CH-CCR-M69-0421
Lab Sample ID: 550-162152-7
Date Collected: 04/17/21 08:35
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/23/21 00:09	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/23/21 00:27	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 18:15	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:25	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:46	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:26	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:50	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:21	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:36	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240618	04/27/21 15:45	MEG	TAL PHX

Client Sample ID: CH-CCR-M69-0421
Lab Sample ID: 550-162152-8
Date Collected: 04/17/21 08:35
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:20	MGM	TAL PHX

Client Sample ID: CH-CCR-M69-0421 | **Lab Sample ID: 550-162152-8**
Date Collected: 04/17/21 08:35 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:15	ARE	TAL PHX

Client Sample ID: CH-CCR-M70-0421 | **Lab Sample ID: 550-162152-9**
Date Collected: 04/17/21 07:53 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/23/21 00:46	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/23/21 01:04	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 18:42	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:29	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:49	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:28	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:52	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:23	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:37	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 14:59	MEG	TAL PHX

Client Sample ID: CH-CCR-M70-0421 | **Lab Sample ID: 550-162152-10**
Date Collected: 04/17/21 07:53 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:24	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:17	ARE	TAL PHX

Client Sample ID: CH-CCR-W301-0421 | **Lab Sample ID: 550-162152-11**
Date Collected: 04/17/21 14:15 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/23/21 01:23	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/23/21 01:41	JRP	TAL PHX

Client Sample ID: CH-CCR-W301-0421

Lab Sample ID: 550-162152-11

Date Collected: 04/17/21 14:15
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	239835	04/19/21 19:10	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:33	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:52	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:30	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:54	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:24	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:39	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 15:11	MEG	TAL PHX

Client Sample ID: CH-CCR-W301-0421

Lab Sample ID: 550-162152-12

Date Collected: 04/17/21 14:15
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:28	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:19	ARE	TAL PHX

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-13

Date Collected: 04/17/21 15:05
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/23/21 01:59	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/23/21 02:18	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 20:32	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:37	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:09	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:32	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:56	ARE	TAL PHX

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-13

Date Collected: 04/17/21 15:05

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:26	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:49	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 15:24	MEG	TAL PHX

Client Sample ID: CH-CCR-W302-0421

Lab Sample ID: 550-162152-14

Date Collected: 04/17/21 15:05

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:32	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:22	ARE	TAL PHX

Client Sample ID: CH-CCR-W303-0421

Lab Sample ID: 550-162152-15

Date Collected: 04/17/21 13:31

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/23/21 02:36	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/23/21 02:55	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 20:59	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:40	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:13	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:35	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 13:59	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:27	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:54	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 15:37	MEG	TAL PHX

Client Sample ID: CH-CCR-W303-0421
Lab Sample ID: 550-162152-16
Date Collected: 04/17/21 13:31
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:35	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:24	ARE	TAL PHX

Client Sample ID: CH-CCR-W304-0421
Lab Sample ID: 550-162152-17
Date Collected: 04/18/21 06:39
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 04:27	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 04:45	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 21:27	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:52	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:16	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:37	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:01	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:29	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:55	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240618	04/27/21 15:59	MEG	TAL PHX

Client Sample ID: CH-CCR-W304-0421
Lab Sample ID: 550-162152-18
Date Collected: 04/18/21 06:39
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:39	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:26	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-0421

Lab Sample ID: 550-162152-19
Date Collected: 04/17/21 11:17
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 05:03	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 05:22	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 21:54	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:55	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:19	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:39	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:03	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:30	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:57	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 13:38	MEG	TAL PHX

Client Sample ID: CH-CCR-W305-0421

Lab Sample ID: 550-162152-20
Date Collected: 04/17/21 11:17
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:43	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:28	ARE	TAL PHX

Client Sample ID: CH-CCR-FD03-0421

Lab Sample ID: 550-162152-21
Date Collected: 04/17/21 12:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 06:17	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 22:21	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240343	04/23/21 23:13	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/22/21 23:59	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:23	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:45	ARE	TAL PHX

Client Sample ID: CH-CCR-FD03-0421

Lab Sample ID: 550-162152-21

Date Collected: 04/17/21 12:30

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:09	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:35	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 10:58	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 16:31	MEG	TAL PHX

Client Sample ID: CH-CCR-FD03-0421

Lab Sample ID: 550-162152-22

Date Collected: 04/17/21 12:30

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:54	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:36	ARE	TAL PHX

Client Sample ID: CH-CCR-W306-0421

Lab Sample ID: 550-162152-23

Date Collected: 04/17/21 10:07

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 10:58	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 11:17	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 22:49	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:03	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:26	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:47	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:11	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:36	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 11:00	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-0421
Lab Sample ID: 550-162152-23
Date Collected: 04/17/21 10:07
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 16:42	MEG	TAL PHX

Client Sample ID: CH-CCR-W306-0421
Lab Sample ID: 550-162152-24
Date Collected: 04/17/21 10:07
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 05:58	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:38	ARE	TAL PHX

Client Sample ID: CH-CCR-W307-0421
Lab Sample ID: 550-162152-25
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 12:12	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 12:30	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 23:16	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:07	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:29	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:49	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:13	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:38	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 11:01	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 16:54	MEG	TAL PHX

Client Sample ID: CH-CCR-W307-0421
Lab Sample ID: 550-162152-26
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:02	MGM	TAL PHX

Client Sample ID: CH-CCR-W307-0421

Lab Sample ID: 550-162152-26
Date Collected: 04/18/21 07:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:40	ARE	TAL PHX

Client Sample ID: CH-CCR-W308-0421

Lab Sample ID: 550-162152-27
Date Collected: 04/18/21 08:25
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 12:49	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 13:07	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239835	04/19/21 23:44	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:11	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:46	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:51	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:15	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:39	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 11:03	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 17:07	MEG	TAL PHX

Client Sample ID: CH-CCR-W308-0421

Lab Sample ID: 550-162152-28
Date Collected: 04/18/21 08:25
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:06	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:42	ARE	TAL PHX

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-29
Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 13:26	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 13:44	JRP	TAL PHX

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-29

Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	239835	04/20/21 00:11	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:14	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 11:55	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:53	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:17	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:41	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 11:04	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 17:21	MEG	TAL PHX

Client Sample ID: CH-CCR-W309-0421

Lab Sample ID: 550-162152-30

Date Collected: 04/18/21 10:03
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240067	04/21/21 19:58	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240219	04/22/21 21:39	MGM	TAL PHX
Dissolved	Prep	200.7			240067	04/21/21 19:58	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240458	04/25/21 09:50	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:44	ARE	TAL PHX

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-31

Date Collected: 04/16/21 14:45
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 14:02	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 14:21	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 15:14	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:18	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 11:59	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:55	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-31

Date Collected: 04/16/21 14:45

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:19	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:42	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 11:06	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 17:35	MEG	TAL PHX

Client Sample ID: CH-CCR-W314-0421

Lab Sample ID: 550-162152-32

Date Collected: 04/16/21 14:45

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:10	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:47	ARE	TAL PHX

Client Sample ID: CH-CCR-W317-0421

Lab Sample ID: 550-162152-33

Date Collected: 04/14/21 10:27

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240269	04/23/21 14:39	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240269	04/23/21 14:58	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:22	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:10	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:57	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:21	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:44	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-BAP-0421

Lab Sample ID: 550-162152-34

Date Collected: 04/16/21 10:10

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 22:01	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 22:19	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 15:41	JRP	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240220	04/23/21 00:26	MGM	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	240457	04/25/21 09:15	MGM	TAL PHX
Total/NA	Prep	200.7			239834	04/20/21 10:16	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240457	04/25/21 09:19	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:13	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 10:59	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:24	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:45	SRR	TAL PHX
Total/NA	Analysis	350.1		1	239852	04/20/21 09:53	ZN1	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 16:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 04:10	MEG	TAL PHX

Client Sample ID: CH-CCR-BAP-0421

Lab Sample ID: 550-162152-35

Date Collected: 04/16/21 10:10

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:13	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:49	ARE	TAL PHX

Client Sample ID: CH-CCR-BAPTD-0421

Lab Sample ID: 550-162152-36

Date Collected: 04/17/21 11:45

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 22:38	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 22:56	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 16:09	JRP	TAL PHX

Client Sample ID: CH-CCR-BAPTD-0421
Date Collected: 04/17/21 11:45
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162152-36
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 17:47	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 17:41	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:16	LMT	TAL DEN
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 11:02	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:26	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:47	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:23	ZN1	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 16:32	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 04:21	MEG	TAL PHX

Client Sample ID: CH-CCR-BAPTD-0421
Date Collected: 04/17/21 11:45
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162152-37
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:17	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:51	ARE	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-0421
Date Collected: 04/16/21 16:10
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162152-38
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 23:15	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 23:33	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 16:36	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 17:50	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 17:45	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:20	LMT	TAL DEN

Client Sample ID: CH-CCR-Petroglyph-0421 — Lab Sample ID: 550-162152-38

Date Collected: 04/16/21 16:10 — **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240466	04/26/21 11:04	ARE	TAL PHX
Total/NA	Prep	200.8			239907	04/20/21 17:26	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240497	04/26/21 14:28	ARE	TAL PHX
Total/NA	Prep	245.1			240581	04/27/21 15:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240620	04/27/21 19:48	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:25	ZN1	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 16:41	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
					(Start)	04/23/21 07:38		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 04:33	MEG	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-0421 — Lab Sample ID: 550-162152-39

Date Collected: 04/16/21 16:10 — **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:21	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:53	ARE	TAL PHX

Client Sample ID: CH-CCR-TanWash-0421 — Lab Sample ID: 550-162152-40

Date Collected: 04/16/21 15:35 — **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 23:51	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/24/21 00:10	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 17:03	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 17:54	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 17:49	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:23	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:14	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:11	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:26	ZN1	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 16:50	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TanWash-0421

Lab Sample ID: 550-162152-40
Date Collected: 04/16/21 15:35
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	240227		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 04:45	MEG	TAL PHX

Client Sample ID: CH-CCR-TanWash-0421

Lab Sample ID: 550-162152-41
Date Collected: 04/16/21 15:35
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:25	MGM	TAL PHX
Dissolved	Prep	200.8			240197	04/22/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		2	240635	04/27/21 16:55	ARE	TAL PHX

Client Sample ID: CH-CCR-FD04-0421

Lab Sample ID: 550-162152-42
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240346	04/24/21 01:42	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240346	04/24/21 02:00	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 17:31	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 17:58	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 17:52	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:40	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:17	ARE	TAL PHX
Total/NA	Prep	245.1			240599	04/27/21 16:24	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240623	04/27/21 20:12	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:28	ZN1	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 16:58	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	240231		YET	TAL PHX
					(Start)	04/23/21 07:40		
					(End)	04/26/21 09:20		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 04:57	MEG	TAL PHX

Client Sample ID: CH-CCR-FD04-0421
Lab Sample ID: 550-162152-43
Date Collected: 04/17/21 11:45
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240066	04/21/21 19:49	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240448	04/25/21 06:29	MGM	TAL PHX
Dissolved	Prep	200.8			240201	04/22/21 20:34	SXF	TAL PHX
Dissolved	Analysis	200.8 LL		1	240634	04/27/21 15:52	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162152-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Iowa	State	IA#370	12-02-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

162152

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

550-162152 Chain of Custody

Chain of Custody Record

TestAmerica — THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact			
Arizona Public Service	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
4801 Cholla Lake Rd	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
Joseph City, AZ 86032	Analysis Turnaround Time: ☑ CALENDAR DAYS ☑ WORKING DAYS		COC No: 1 of 2 COCs
(928) 587-0319 Phone	TAT if different from Below ______		Sampler:
FAX	☑ 2 weeks		For Lab Use Only: Walk-in Client:
Project Name: CCR Groundwater Monitoring	☐ 1 week		Lab Sampling:
Site: APS Cholla Power Plant (BAP)	☐ 2 days		Job / SDG No.:
PO #: 300588233	☐ 1 day		

ccw 4/19/21

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y/N)	Perform MS / MSD (Y/N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	Sample Specific Notes:
-1	CH-CCR-M52-0421	4/17/2021	9:15	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	Low Flow 1+2
-2	CH-CCR-M53-0421	4/17/2021	12:30	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 3+4
-3	CH-CCR-M55-0421	4/18/2021	09:09	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 5+6
-4	CH-CCR-M69-0421	4/17/2021	08:35	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 7+8
-5	CH-CCR-M70-0421	4/17/2021	07:53	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 9+10
-6	CH-CCR-W301-0421	4/17/2021	14:15	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 11+12
-7	CH-CCR-W302-0421	4/17/2021	15:05	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 13+14
-8	CH-CCR-W303-0421	4/17/2021	13:31	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 15+16
-9	CH-CCR-W304-0421	4/18/2021	06:39	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 17+18
-10	CH-CCR-W305-0421	4/17/2021	11:17	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	" 19+20
-11	CH-CCR-FD03-0421	4/17/2021	12:30	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	Low Flow, Field Dupe 21+22
	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	4	1	1	2	3	3	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

4.0 | 3.0 | 5.3 | 6.4 | 6.3

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by: Mari Woiil	Company: Wood	Date/Time: 4/19/21 10:41	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 4/19/21 10:41

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

GD

162152

Chain of Custody Record

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

5/4/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Con 4/19/21

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
4801 Cholla Lake Rd	**Analysis Turnaround Time**		COC No: 2 of 2 COCs
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS		Sampler:
(928) 587-0319 Phone	TAT if different from Below ______		**For Lab Use Only:**
FAX	☑ 2 weeks		Walk-in Client:
Project Name: CCR Groundwater Monitoring	☐ 1 week		Lab Sampling:
Site: APS Cholla Power Plant (BAP)	☐ 2 days		Job / SDG No.:
PO #: 300588233	☐ 1 day		

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.8 - Dissolved (Co)	SM 5310B (TOC)	SM 2320B - CO3 & HCO3 Alkalinity as CaCO3	Sample Specific Notes:
-12	CH-CCR-W306-0421	4/17/2021	10:07	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X						Low Flow 23+24
-13	CH-CCR-W307-0421	4/18/2021	07:30	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X						" 25+26
-14	CH-CCR-W308-0421	4/18/2021	08:25	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X						" 27+28
-15	CH-CCR-W309-0421	4/18/2021	10:03	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X						" 29+30
-16	CH-CCR-W314-0421	4/16/2021	14:45	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X						" 31+32
-17	CH-CCR-W317-0421	4/14/2021	10:27	G	W	2	N	N	X			X		X	X	X				X					" 33
-18	CH-CCR-BAP-0421	4/16/2021	10:10	G	W	8	*	N	X		X	X		X	X	X		X	X		X	X	X	X	Surface water sample (composite) 34+35
-19	CH-CCR-BAPTD-0421	4/17/2021	11:45	G	W	8	*	N	X		X	X		X	X	X		X	X		X	X	X	X	Seepage sample 36+37
-20	CH-CCR-Petroglyph-0421	4/16/2021	16:10	G	W	8	*	N	X		X	X		X	X	X		X	X		X	X	X	X	Seepage sample 38+39
-21	CH-CCR-TanWash-0421	4/16/2021	15:35	G	W	8	*	N	X		X	X		X	X	X		X	X		X	X	X	X	Seepage sample (composite) 40+41
	CH-CCR-FD04-0421	4/17/2021	11:45	G	W	8	*	N	X		X	X		X	X	X		X	X		X	X	X	X	Low Flow, Field Dupe 42+43
	Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3	4					

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

4.0/3.0/53/6.4/6.3

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______		Therm ID No.: ______
Relinquished by: Mari Woolet	Company: Wood	Date/Time: 4/19/21 1047	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 4/19/21 10:41

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

CDD

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-30726.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-162152-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M52-0421 (550-162152-1)	4/17/21	09:15 Arizona		Water			X	1	AZ Sample
CH-CCR-M53-0421 (550-162152-3)	4/17/21	12:30 Arizona		Water			X	1	AZ Sample
CH-CCR-M55-0421 (550-162152-5)	4/18/21	09:09 Arizona		Water			X	1	AZ Sample
CH-CCR-M69-0421 (550-162152-7)	4/17/21	08:35 Arizona		Water			X	1	AZ Sample
CH-CCR-M70-0421 (550-162152-9)	4/17/21	07:53 Arizona		Water			X	1	AZ Sample
CH-CCR-W301-0421 (550-162152-11)	4/17/21	14:15 Arizona		Water			X	1	AZ Sample
CH-CCR-W302-0421 (550-162152-13)	4/17/21	15:05 Arizona		Water			X	1	AZ Sample
CH-CCR-W303-0421 (550-162152-15)	4/17/21	13:31 Arizona		Water			X	1	AZ Sample
CH-CCR-W304-0421 (550-162152-17)	4/18/21	06:39 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: [signature]	Date/Time: 04-27-21 16:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: FEDEX	Date/Time:	Company:	Received by: [signature]	Date/Time: 04/29/21 1045	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6, IR1, CF0.4, DLD, 04/29/21

Ver: 11/01/2020

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-30726.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 2 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-162152-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W305-0421 (550-162152-19)	4/17/21	11:17 Arizona		Water			X	1	AZ Sample
CH-CCR-FD03-0421 (550-162152-21)	4/17/21	12:30 Arizona		Water			X	1	AZ Sample
CH-CCR-W306-0421 (550-162152-23)	4/17/21	10:07 Arizona		Water			X	1	AZ Sample
CH-CCR-W307-0421 (550-162152-25)	4/18/21	07:30 Arizona		Water			X	1	AZ Sample
CH-CCR-W308-0421 (550-162152-27)	4/18/21	08:25 Arizona		Water			X	1	AZ Sample
CH-CCR-W309-0421 (550-162152-29)	4/18/21	10:03 Arizona		Water			X	1	AZ Sample
CH-CCR-W314-0421 (550-162152-31)	4/16/21	14:45 Arizona		Water			X	1	AZ Sample
CH-CCR-W317-0421 (550-162152-33)	4/14/21	10:27 Arizona		Water			X	1	AZ Sample
CH-CCR-BAP-0421 (550-162152-34)	4/16/21	10:10 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 4-27-21 16:00	Company: TA-PHX	Received by: FedEx		Date/Time:	Company:
Relinquished by: FEDEX	Date/Time:	Company:	Received by: [signature]		Date/Time: 4/29/21 1045	Company: ETA-DEN
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-30726 3
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 3 of 3
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-162152-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code						
CH-CCR-BAPTD-0421 (550-162152-36)	4/17/21	11:45 Arizona		Water			X	1	AZ Sample
CH-CCR-Petroglyph-0421 (550-162152-38)	4/16/21	16:10 Arizona		Water			X	1	AZ Sample
CH-CCR-TanWash-0421 (550-162152-40)	4/16/21	15:35 Arizona		Water			X	1	AZ Sample
CH-CCR-FD04-0421 (550-162152-42)	4/17/21	11:45 Arizona		Water			X	1	AZ Sample

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed

Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:	Method of Shipment:	
Relinquished by: Emma 04-27-21 16:00	Date/Time:	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: FEDEX	Date/Time:	Company:	Received by: [illegible]	Date/Time: 04/29/21 1045	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162152-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 162152
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162152-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 162152
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver
List Creation: 04/29/21 06:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-164785-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
6/18/2021 3:15:52 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H6	The filtration was not done within the required 15 minutes of sampling, the sample was filtered in the laboratory.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
V1	CCV recovery was above method acceptance limits. This target analyte was not detected in the sample.

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-164785-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-164785-1

Comments
No additional comments.

Receipt
The samples were received on 6/3/2021 11:03 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 0.9º C and 2.1º C.

Receipt Exceptions
Client used the wrong sample container needed for the dissolved metals-lab to filter method.
Split sample volume from the unpreserved 500 ml container to use for the dissolved metals.

Pop up note in the project requests that MS/MSD be added for this client, client did not provide sample volume for this request.

CH-CCR-P226A-0621 (550-164785-1), CH-CCR-P226A-0621 (550-164785-2), CH-CCR-P226B-0621 (550-164785-3), CH-CCR-P226B-0621 (550-164785-4), CH-CCR-P226C-0621 (550-164785-5), CH-CCR-P226C-0621 (550-164785-6), CH-CCR-P226D-0621 (550-164785-7), CH-CCR-P226D-0621 (550-164785-8), CH-CCR-P226E-0621 (550-164785-9), CH-CCR-P226E-0621 (550-164785-10), CH-CCR-P226G-0621 (550-164785-11), CH-CCR-P226G-0621 (550-164785-12), CH-CCR-P226H-0621 (550-164785-13) and CH-CCR-P226H-0621 (550-164785-14)

HPLC/IC
Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-P226A-0621 (550-164785-1). An elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method Filtration: The following samples requested dissolved metals and were not filtered in the field: CH-CCR-P226A-0621 (550-164785-2), CH-CCR-P226B-0621 (550-164785-4), CH-CCR-P226C-0621 (550-164785-6), CH-CCR-P226D-0621 (550-164785-8), CH-CCR-P226E-0621 (550-164785-10), CH-CCR-P226G-0621 (550-164785-12) and CH-CCR-P226H-0621 (550-164785-14). These samples were filtered and preserved upon receipt to the laboratory.

Method 200.7 Rev 4.4: The continuing calibration verification (CCV) associated with batch 550-244594 recovered above the upper control limit for Beryllium. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 200.7 Rev 4.4: The method blank for preparation batch 550-244391 and 550-244493 and analytical batch 550-244738 contained Manganese above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-244965 were outside control limits for Total Organic Carbon (TOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-164785-1	CH-CCR-P226A-0621	Water	06/01/21 12:12	06/03/21 11:03	
550-164785-2	CH-CCR-P226A-0621	Water	06/01/21 12:12	06/03/21 11:03	
550-164785-3	CH-CCR-P226B-0621	Water	06/01/21 12:27	06/03/21 11:03	
550-164785-4	CH-CCR-P226B-0621	Water	06/01/21 12:27	06/03/21 11:03	
550-164785-5	CH-CCR-P226C-0621	Water	06/01/21 12:51	06/03/21 11:03	
550-164785-6	CH-CCR-P226C-0621	Water	06/01/21 12:51	06/03/21 11:03	
550-164785-7	CH-CCR-P226D-0621	Water	06/01/21 13:03	06/03/21 11:03	
550-164785-8	CH-CCR-P226D-0621	Water	06/01/21 13:03	06/03/21 11:03	
550-164785-9	CH-CCR-P226E-0621	Water	06/01/21 13:20	06/03/21 11:03	
550-164785-10	CH-CCR-P226E-0621	Water	06/01/21 13:20	06/03/21 11:03	
550-164785-11	CH-CCR-P226G-0621	Water	06/01/21 13:55	06/03/21 11:03	
550-164785-12	CH-CCR-P226G-0621	Water	06/01/21 13:55	06/03/21 11:03	
550-164785-13	CH-CCR-P226H-0621	Water	06/01/21 14:21	06/03/21 11:03	
550-164785-14	CH-CCR-P226H-0621	Water	06/01/21 14:21	06/03/21 11:03	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-P226A-0621 — Lab Sample ID: 550-164785-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.16	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.097	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00024	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0095		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00035		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0057		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.014		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0052		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.036		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0020		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000083	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.11		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	72		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	72		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.95		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226A-0621 — Lab Sample ID: 550-164785-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.066	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.2	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.014	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-P226B-0621 — Lab Sample ID: 550-164785-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.056	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00013	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-P226B-0621 (Continued) — Lab Sample ID: 550-164785-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0083		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00038		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00091	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.013		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0047		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.036		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0031		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000081	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.41		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	74		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	74		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.84		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226B-0621 — Lab Sample ID: 550-164785-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.060	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.7	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.014	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-P226C-0621 — Lab Sample ID: 550-164785-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.067	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	260		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00023	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0016		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0088		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00032		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00080	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.013		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0069		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.040		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0057		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000068	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.43		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	92		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	92		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-P226C-0621 (Continued)

Lab Sample ID: 550-164785-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.88		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.064	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.6	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.013	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00012	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0034		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0087		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00064		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.012		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.019		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.014		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.062		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00061		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000041	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.43		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	67		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	67		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.91		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.055	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.1	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.018	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-P226E-0621 — Lab Sample ID: 550-164785-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.9	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.45		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	11	D2	0.050	0.00096	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2400	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00035	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0034		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.0091		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.68		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0093		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0065		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.23		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00021		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.30		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	70		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	70		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226E-0621 — Lab Sample ID: 550-164785-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.059	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	8.4	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.015	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-P226G-0621 — Lab Sample ID: 550-164785-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.76	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.50		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.83		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	7.8		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2300	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00074	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0038		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-P226G-0621 (Continued) — Lab Sample ID: 550-164785-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0017		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00012		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.18		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0031		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0048		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.14		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0022		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000035	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.060		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	78		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	78		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	6.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226G-0621 — Lab Sample ID: 550-164785-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.053	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.4	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.015	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

Client Sample ID: CH-CCR-P226H-0621 — Lab Sample ID: 550-164785-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.48	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.51		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.32		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.34		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.014		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00014	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00014		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.057		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0074		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.011		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.022		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0016		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000017	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	5.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-P226H-0621 (Continued)

Lab Sample ID: 550-164785-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-P226H-0621

Lab Sample ID: 550-164785-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.063	E4 H6	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.022	H6	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.0066	H6	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-P226A-0621

Date Collected: 06/01/21 12:12
Date Received: 06/03/21 11:03

Lab Sample ID: 550-164785-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			06/03/21 16:27	200
Fluoride	3.3	D1	0.80	0.095	mg/L			06/03/21 16:09	2
Nitrate Nitrite as N	0.16	D1 E4	0.25	0.11	mg/L			06/04/21 02:02	5
Sulfate	3000	D2	400	85	mg/L			06/03/21 16:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 00:47	1
Lithium	0.21		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 16:47	1
Boron	3.7		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 00:47	1
Calcium	710		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 00:47	1
Iron	0.097	E4	0.10	0.010	mg/L		06/03/21 15:16	06/08/21 00:47	1
Magnesium	250		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 00:47	1
Manganese	4.5		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 00:47	1
Potassium	17		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 00:47	1
Sodium	1700	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:19	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00024	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:22	1
Arsenic	0.0014		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:22	1
Barium	0.0095		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:22	1
Cadmium	0.00035		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:22	1
Chromium	0.0057		0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:22	1
Cobalt	0.014		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:22	1
Lead	0.0052		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:22	1
Molybdenum	0.036		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:22	1
Selenium	0.0020		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:22	1
Thallium	0.000083	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:22	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:38	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.11		0.050	0.039	mg/L			06/06/21 09:25	1
Alkalinity as CaCO3	72		6.0	6.0	mg/L			06/06/21 11:31	1
Bicarbonate Alkalinity as CaCO3	72		6.0	6.0	mg/L			06/06/21 11:31	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:31	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 11:31	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:31	1
Total Dissolved Solids	7200	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.6	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	6.0	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	0.95		0.50	0.26	mg/L			06/09/21 19:46	1

Client Sample ID: CH-CCR-P226A-0621

Lab Sample ID: 550-164785-2
Date Collected: 06/01/21 12:12
Matrix: Water
Date Received: 06/03/21 11:03

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.066	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:01	1
Manganese	4.2	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:01	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.014	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:03	1

Client Sample ID: CH-CCR-P226B-0621

Lab Sample ID: 550-164785-3
Date Collected: 06/01/21 12:27
Matrix: Water
Date Received: 06/03/21 11:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2300	D2	400	100	mg/L			06/03/21 17:41	200
Fluoride	3.0	D1	0.80	0.095	mg/L			06/03/21 17:22	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 03:24	5
Sulfate	3300	D2	400	85	mg/L			06/03/21 17:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 00:51	1
Lithium	0.20		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 16:50	1
Boron	3.8		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 00:51	1
Calcium	690		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 00:51	1
Iron	0.056	E4	0.10	0.010	mg/L		06/03/21 15:16	06/08/21 00:51	1
Magnesium	250		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 00:51	1
Manganese	3.7		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 00:51	1
Potassium	17		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 00:51	1
Sodium	1600	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:23	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00013	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:24	1
Arsenic	0.0014		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:24	1
Barium	0.0083		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:24	1
Cadmium	0.00038		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:24	1
Chromium	0.00091	E4	0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:24	1
Cobalt	0.013		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:24	1
Lead	0.0047		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:24	1
Molybdenum	0.036		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:24	1
Selenium	0.0031		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:24	1
Thallium	0.000081	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:24	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.41		0.050	0.039	mg/L			06/06/21 09:27	1
Alkalinity as CaCO3	74		6.0	6.0	mg/L			06/06/21 11:49	1

Client Sample ID: CH-CCR-P226B-0621

Lab Sample ID: 550-164785-3

Date Collected: 06/01/21 12:27
Date Received: 06/03/21 11:03

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	74		6.0	6.0	mg/L			06/06/21 11:49	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:49	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 11:49	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:49	1
Total Dissolved Solids	7300	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.7	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	5.8	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	0.84		0.50	0.26	mg/L			06/08/21 22:14	1

Client Sample ID: CH-CCR-P226B-0621

Lab Sample ID: 550-164785-4

Date Collected: 06/01/21 12:27
Date Received: 06/03/21 11:03

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.060	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:05	1
Manganese	3.7	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:05	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.014	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:05	1

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-5

Date Collected: 06/01/21 12:51
Date Received: 06/03/21 11:03

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			06/03/21 18:18	200
Fluoride	2.7	D1	0.80	0.095	mg/L			06/03/21 17:59	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 03:52	5
Sulfate	2900	D2	400	85	mg/L			06/03/21 18:18	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 00:55	1
Lithium	0.22		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 16:54	1
Boron	3.5		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 00:55	1
Calcium	710		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 00:55	1
Iron	0.067	E4	0.10	0.010	mg/L		06/03/21 15:16	06/08/21 00:55	1
Magnesium	260		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 00:55	1
Manganese	4.5		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 00:55	1
Potassium	16		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 00:55	1
Sodium	1700	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:27	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00023	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:26	1
Arsenic	0.0016		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:26	1
Barium	0.0088		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:26	1
Cadmium	0.00032		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:26	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-5
Date Collected: 06/01/21 12:51
Matrix: Water
Date Received: 06/03/21 11:03

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.00080	E4	0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:26	1
Cobalt	0.013		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:26	1
Lead	0.0069		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:26	1
Molybdenum	0.040		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:26	1
Selenium	0.0057		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:26	1
Thallium	0.000068	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:26	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.43		0.050	0.039	mg/L			06/06/21 09:28	1
Alkalinity as CaCO3	92		6.0	6.0	mg/L			06/06/21 11:57	1
Bicarbonate Alkalinity as CaCO3	92		6.0	6.0	mg/L			06/06/21 11:57	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:57	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 11:57	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 11:57	1
Total Dissolved Solids	7600	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.7	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	6.0	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	0.88		0.50	0.26	mg/L			06/08/21 22:49	1

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-6
Date Collected: 06/01/21 12:51
Matrix: Water
Date Received: 06/03/21 11:03

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.064	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:09	1
Manganese	4.6	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.013	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:08	1

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-7
Date Collected: 06/01/21 13:03
Matrix: Water
Date Received: 06/03/21 11:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			06/03/21 18:54	200
Fluoride	2.7	D1	0.80	0.095	mg/L			06/03/21 18:36	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 04:19	5
Sulfate	3000	D2	400	85	mg/L			06/03/21 18:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 00:59	1

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-7

Date Collected: 06/01/21 13:03
Date Received: 06/03/21 11:03

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.20		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 16:57	1
Boron	3.4		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 00:59	1
Calcium	670		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 00:59	1
Iron	0.14		0.10	0.010	mg/L		06/03/21 15:16	06/08/21 00:59	1
Magnesium	230		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 00:59	1
Manganese	3.1		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 00:59	1
Potassium	12		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 00:59	1
Sodium	1700	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:31	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00012	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:28	1
Arsenic	0.0034		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:28	1
Barium	0.0087		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:28	1
Cadmium	0.00064		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:28	1
Chromium	0.012		0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:28	1
Cobalt	0.019		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:28	1
Lead	0.014		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:28	1
Molybdenum	0.062		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:28	1
Selenium	0.00061		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:28	1
Thallium	0.000041	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:28	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.43		0.050	0.039	mg/L			06/06/21 09:30	1
Alkalinity as CaCO3	67		6.0	6.0	mg/L			06/06/21 12:06	1
Bicarbonate Alkalinity as CaCO3	67		6.0	6.0	mg/L			06/06/21 12:06	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:06	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 12:06	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:06	1
Total Dissolved Solids	7200	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.6	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	5.8	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	0.91		0.50	0.26	mg/L			06/08/21 23:00	1

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-8

Date Collected: 06/01/21 13:03
Date Received: 06/03/21 11:03

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.055	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:12	1
Manganese	3.1	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:12	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.018	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:10	1

Client Sample ID: CH-CCR-P226E-0621
Date Collected: 06/01/21 13:20
Date Received: 06/03/21 11:03

Lab Sample ID: 550-164785-9
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**D2**	400	100	mg/L			06/03/21 20:08	200
Fluoride	**1.9**	**D1**	0.80	0.095	mg/L			06/03/21 19:50	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 04:47	5
Sulfate	**3000**	**D2**	400	85	mg/L			06/03/21 20:08	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 01:02	1
Lithium	**0.45**		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 17:00	1
Boron	**1.1**		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 01:02	1
Calcium	**720**		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 01:02	1
Iron	**3.0**		0.10	0.010	mg/L		06/03/21 15:16	06/08/21 01:02	1
Magnesium	**190**		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 01:02	1
Manganese	**11**	**D2**	0.050	0.00096	mg/L		06/03/21 15:16	06/09/21 00:34	5
Potassium	**12**		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 01:02	1
Sodium	**2400**	**D2**	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:34	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00035**	**E4**	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:30	1
Arsenic	**0.0034**		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:30	1
Barium	**0.011**		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:30	1
Cadmium	**0.0091**		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:30	1
Chromium	**0.68**		0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:30	1
Cobalt	**0.0093**		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:30	1
Lead	**0.0065**		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:30	1
Molybdenum	**0.23**		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:30	1
Selenium	**0.0012**		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:30	1
Thallium	**0.00021**		0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:30	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.30**		0.050	0.039	mg/L			06/06/21 09:31	1
Alkalinity as CaCO3	**70**		6.0	6.0	mg/L			06/06/21 12:15	1
Bicarbonate Alkalinity as CaCO3	**70**		6.0	6.0	mg/L			06/06/21 12:15	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:15	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 12:15	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:15	1
Total Dissolved Solids	**8000**	**D2**	100	100	mg/L			06/04/21 06:55	1
pH	**7.8**	**H5**	1.7	1.7	SU			06/08/21 16:35	1
Temperature	**6.9**	**H5**	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	**1.3**		0.50	0.26	mg/L			06/08/21 23:11	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-P226E-0621

Lab Sample ID: 550-164785-10
Date Collected: 06/01/21 13:20
Matrix: Water
Date Received: 06/03/21 11:03

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.059	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:16	1
Manganese	8.4	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:16	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.015	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:12	1

Client Sample ID: CH-CCR-P226G-0621

Lab Sample ID: 550-164785-11
Date Collected: 06/01/21 13:55
Matrix: Water
Date Received: 06/03/21 11:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3000	D2	400	100	mg/L			06/03/21 20:45	200
Fluoride	0.76	D1 E4	0.80	0.095	mg/L			06/03/21 20:26	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 05:14	5
Sulfate	2900	D2	400	85	mg/L			06/03/21 20:45	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 01:06	1
Lithium	0.50		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 17:04	1
Boron	0.37		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 01:06	1
Calcium	760		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 01:06	1
Iron	0.83		0.10	0.010	mg/L		06/03/21 15:16	06/08/21 01:06	1
Magnesium	170		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 01:06	1
Manganese	1.5		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 01:06	1
Potassium	7.8		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 01:06	1
Sodium	2300	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:38	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00074	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:32	1
Arsenic	0.0038		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:32	1
Barium	0.0017		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:32	1
Cadmium	0.00012		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:32	1
Chromium	0.18		0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:32	1
Cobalt	0.0031		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:32	1
Lead	0.0048		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:32	1
Molybdenum	0.14		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:32	1
Selenium	0.0022		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:32	1
Thallium	0.000035	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:32	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.060		0.050	0.039	mg/L			06/06/21 09:33	1
Alkalinity as CaCO3	78		6.0	6.0	mg/L			06/06/21 12:23	1

Client Sample ID: CH-CCR-P226G-0621

Lab Sample ID: 550-164785-11
Date Collected: 06/01/21 13:55
Matrix: Water
Date Received: 06/03/21 11:03

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	78		6.0	6.0	mg/L			06/06/21 12:23	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:23	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 12:23	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:23	1
Total Dissolved Solids	8200	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.8	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	6.3	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	1.3		0.50	0.26	mg/L			06/08/21 23:21	1

Client Sample ID: CH-CCR-P226G-0621

Lab Sample ID: 550-164785-12
Date Collected: 06/01/21 13:55
Matrix: Water
Date Received: 06/03/21 11:03

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.053	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:20	1
Manganese	2.4	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:20	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.015	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:14	1

Client Sample ID: CH-CCR-P226H-0621

Lab Sample ID: 550-164785-13
Date Collected: 06/01/21 14:21
Matrix: Water
Date Received: 06/03/21 11:03

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200	D2	400	100	mg/L			06/03/21 21:22	200
Fluoride	0.48	D1 E4	0.80	0.095	mg/L			06/03/21 21:03	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			06/04/21 05:41	5
Sulfate	3000	D2	400	85	mg/L			06/03/21 21:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8 V1	0.0010	0.000067	mg/L		06/03/21 15:16	06/08/21 00:36	1
Lithium	0.51		0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 17:07	1
Boron	0.32		0.050	0.0025	mg/L		06/03/21 15:16	06/08/21 00:36	1
Calcium	730		2.0	0.013	mg/L		06/03/21 15:16	06/08/21 00:36	1
Iron	0.34		0.10	0.010	mg/L		06/03/21 15:16	06/08/21 00:36	1
Magnesium	190		2.0	0.044	mg/L		06/03/21 15:16	06/08/21 00:36	1
Manganese	0.014		0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 00:36	1
Potassium	8.2		0.50	0.17	mg/L		06/03/21 15:16	06/08/21 00:36	1
Sodium	2500	D2	2.5	0.15	mg/L		06/03/21 15:16	06/09/21 00:15	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00014	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 10:34	1
Arsenic	0.0011		0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 10:34	1
Barium	0.011		0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 10:34	1
Cadmium	0.00014		0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 10:34	1

Client Sample ID: CH-CCR-P226H-0621

Lab Sample ID: 550-164785-13

Date Collected: 06/01/21 14:21
Date Received: 06/03/21 11:03

Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.057		0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 10:34	1
Cobalt	0.0074		0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 10:34	1
Lead	0.011		0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 10:34	1
Molybdenum	0.022		0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 10:34	1
Selenium	0.0016		0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 10:34	1
Thallium	0.000017	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 10:34	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			06/06/21 09:34	1
Alkalinity as CaCO3	75		6.0	6.0	mg/L			06/06/21 12:31	1
Bicarbonate Alkalinity as CaCO3	75		6.0	6.0	mg/L			06/06/21 12:31	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:31	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 12:31	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 12:31	1
Total Dissolved Solids	8700	D2	100	100	mg/L			06/04/21 06:55	1
pH	7.9	H5	1.7	1.7	SU			06/08/21 16:35	1
Temperature	5.2	H5	0.1	0.1	Degrees C			06/08/21 16:35	1
Total Organic Carbon	1.4		0.50	0.26	mg/L			06/08/21 23:32	1

Client Sample ID: CH-CCR-P226H-0621

Lab Sample ID: 550-164785-14

Date Collected: 06/01/21 14:21
Date Received: 06/03/21 11:03

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.063	E4 H6	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 02:24	1
Manganese	0.022	H6	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 02:24	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0066	H6	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:16	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-244323/1030
Matrix: Water
Analysis Batch: 244323

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			06/04/21 00:40	1

Lab Sample ID: LCS 550-244323/31
Matrix: Water
Analysis Batch: 244323

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.41		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-244323/32
Matrix: Water
Analysis Batch: 244323

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.41		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-164785-1 MS
Matrix: Water
Analysis Batch: 244323

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.16	E4 D1	40.0	38.9	D1	mg/L		97	80 - 120

Lab Sample ID: 550-164785-1 MSD
Matrix: Water
Analysis Batch: 244323

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.16	E4 D1	40.0	39.1	D1	mg/L		97	80 - 120	1	20

Lab Sample ID: MB 550-244325/2
Matrix: Water
Analysis Batch: 244325

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			06/03/21 14:37	1
Fluoride	ND	E8	0.40	0.047	mg/L			06/03/21 14:37	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/03/21 14:37	1

Lab Sample ID: LCS 550-244325/5
Matrix: Water
Analysis Batch: 244325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.20		mg/L		105	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-244325/6
Matrix: Water
Analysis Batch: 244325

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride			4.00	4.21		mg/L		105	90 - 110	0	20
Sulfate			20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-164785-1 MS
Matrix: Water
Analysis Batch: 244325

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2100	D2	4000	6650	D2	mg/L		113	80 - 120
Fluoride	ND	E8 D1 D5	800	864	D2	mg/L		108	80 - 120
Sulfate	3000	D2	4000	7400	D2	mg/L		109	80 - 120

Lab Sample ID: 550-164785-1 MSD
Matrix: Water
Analysis Batch: 244325

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2100	D2	4000	6630	D2	mg/L		113	80 - 120	0	20
Fluoride	ND	E8 D1 D5	800	861	D2	mg/L		108	80 - 120	0	20
Sulfate	3000	D2	4000	7390	D2	mg/L		109	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-244249/1-A
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		06/03/21 15:16	06/07/21 23:54	1
Calcium	0.0244	E4	2.0	0.013	mg/L		06/03/21 15:16	06/07/21 23:54	1
Magnesium	ND	E8	2.0	0.044	mg/L		06/03/21 15:16	06/07/21 23:54	1
Potassium	ND	E8	0.50	0.17	mg/L		06/03/21 15:16	06/07/21 23:54	1
Iron	ND	E8	0.10	0.010	mg/L		06/03/21 15:16	06/07/21 23:54	1
Manganese	0.000700	E4	0.010	0.00019	mg/L		06/03/21 15:16	06/07/21 23:54	1

Lab Sample ID: MB 550-244249/1-A
Matrix: Water
Analysis Batch: 244736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244249

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND	E8	0.50	0.031	mg/L		06/03/21 15:16	06/08/21 23:49	1
Manganese	ND	E8	0.010	0.00019	mg/L		06/03/21 15:16	06/08/21 23:49	1

Lab Sample ID: LCS 550-244249/2-A
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244249

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron			1.00	1.04		mg/L		104	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-244249/2-A
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	21.3		mg/L		102	85 - 115
Magnesium	21.0	21.1		mg/L		101	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Iron	1.00	0.975		mg/L		98	85 - 115
Manganese	1.00	1.03		mg/L		103	85 - 115

Lab Sample ID: LCS 550-244249/2-A
Matrix: Water
Analysis Batch: 244736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	20.0		mg/L		100	85 - 115
Manganese	1.00	1.02		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-244249/3-A
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.03		mg/L		103	85 - 115	1	20
Calcium	21.0	21.6		mg/L		103	85 - 115	2	20
Magnesium	21.0	21.4		mg/L		102	85 - 115	1	20
Potassium	20.0	20.1		mg/L		100	85 - 115	1	20
Iron	1.00	0.995		mg/L		100	85 - 115	2	20
Manganese	1.00	1.03		mg/L		103	85 - 115	1	20

Lab Sample ID: LCSD 550-244249/3-A
Matrix: Water
Analysis Batch: 244736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	20.0	20.1		mg/L		101	85 - 115	1	20
Manganese	1.00	1.03		mg/L		103	85 - 115	1	20

Lab Sample ID: 550-164776-C-1-A MS
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.18		1.00	1.25		mg/L		107	70 - 130
Calcium	66		21.0	87.6		mg/L		103	70 - 130
Magnesium	39		21.0	61.1		mg/L		103	70 - 130
Potassium	3.1		20.0	23.8		mg/L		104	70 - 130
Iron	ND	E8	1.00	1.03		mg/L		103	70 - 130
Manganese	0.00071	E4	1.00	1.04		mg/L		104	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-164776-C-1-A MS T
Matrix: Water
Analysis Batch: 244736

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	49		20.0	70.5		mg/L		105	70 - 130
Manganese	0.00089	E4	1.00	1.03		mg/L		103	70 - 130

Lab Sample ID: 550-164776-C-1-B MSD
Matrix: Water
Analysis Batch: 244594

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.18		1.00	1.10		mg/L		92	70 - 130	13	20
Calcium	66		21.0	84.2		mg/L		87	70 - 130	4	20
Magnesium	39		21.0	58.1		mg/L		89	70 - 130	5	20
Potassium	3.1		20.0	20.7		mg/L		88	70 - 130	14	20
Iron	ND	E8	1.00	0.982		mg/L		98	70 - 130	4	20
Manganese	0.00071	E4	1.00	1.01		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-164776-C-1-B MSD T
Matrix: Water
Analysis Batch: 244736

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 244249

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	49		20.0	66.4		mg/L		85	70 - 130	6	20
Manganese	0.00089	E4	1.00	1.01		mg/L		100	70 - 130	2	20

Lab Sample ID: MB 550-244493/1-A
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244493

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 01:27	1
Manganese	ND	E8	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 01:27	1

Lab Sample ID: LCS 550-244493/2-A
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244493

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.993		mg/L		99	85 - 115
Manganese	1.00	1.02		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-244493/3-A
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244493

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.01		mg/L		101	85 - 115	2	20
Manganese	1.00	1.01		mg/L		101	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 280-539218/1-A
Matrix: Water
Analysis Batch: 540381

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 539218

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		06/10/21 07:47	06/17/21 16:10	1

Lab Sample ID: LCS 280-539218/2-A
Matrix: Water
Analysis Batch: 540381

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 539218

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Lab Sample ID: 280-149492-C-1-B MS
Matrix: Water
Analysis Batch: 540381

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 539218

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.19		1.00	1.22		mg/L		103	70 - 130

Lab Sample ID: 280-149492-C-1-C MSD
Matrix: Water
Analysis Batch: 540381

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 539218

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.19		1.00	1.25		mg/L		106	70 - 130	2	20

Lab Sample ID: MB 550-244391/1-C
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 244493

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		06/07/21 08:30	06/09/21 01:39	1
Manganese	0.00237	B1 E4	0.010	0.00019	mg/L		06/07/21 08:30	06/09/21 01:39	1

Lab Sample ID: 550-164884-D-4-B MS
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 244493

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.029	E4	1.00	1.07		mg/L		104	70 - 130
Manganese	7.7	M3	1.00	8.34	M3	mg/L		60	70 - 130

Lab Sample ID: 550-164884-D-4-C MSD
Matrix: Water
Analysis Batch: 244738

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 244493

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.029	E4	1.00	1.04		mg/L		101	70 - 130	3	20
Manganese	7.7	M3	1.00	8.26	M3	mg/L		52	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-244341/1-A
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244341

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000530	E4	0.0010	0.000043	mg/L		06/04/21 10:45	06/07/21 09:54	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		06/04/21 10:45	06/07/21 09:54	1
Barium	ND	E8	0.00050	0.00026	mg/L		06/04/21 10:45	06/07/21 09:54	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		06/04/21 10:45	06/07/21 09:54	1
Chromium	ND	E8	0.0010	0.00043	mg/L		06/04/21 10:45	06/07/21 09:54	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/04/21 10:45	06/07/21 09:54	1
Lead	0.000253	E4	0.00050	0.00022	mg/L		06/04/21 10:45	06/07/21 09:54	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		06/04/21 10:45	06/07/21 09:54	1
Selenium	ND	E8	0.00050	0.000074	mg/L		06/04/21 10:45	06/07/21 09:54	1
Thallium	0.0000390	E4	0.00010	0.000013	mg/L		06/04/21 10:45	06/07/21 09:54	1

Lab Sample ID: LCS 550-244341/2-A
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244341

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.100		mg/L		100	85 - 115
Arsenic	0.100	0.101		mg/L		101	85 - 115
Barium	0.100	0.101		mg/L		101	85 - 115
Cadmium	0.100	0.101		mg/L		101	85 - 115
Chromium	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.0992		mg/L		99	85 - 115
Lead	0.100	0.0949		mg/L		95	85 - 115
Molybdenum	0.100	0.102		mg/L		102	85 - 115
Selenium	0.100	0.101		mg/L		101	85 - 115
Thallium	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-244341/3-A
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244341

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.103		mg/L		103	85 - 115	2	20
Arsenic	0.100	0.102		mg/L		102	85 - 115	1	20
Barium	0.100	0.104		mg/L		104	85 - 115	2	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	2	20
Chromium	0.100	0.103		mg/L		103	85 - 115	2	20
Cobalt	0.100	0.0999		mg/L		100	85 - 115	1	20
Lead	0.100	0.0992		mg/L		99	85 - 115	4	20
Molybdenum	0.100	0.102		mg/L		102	85 - 115	0	20
Selenium	0.100	0.103		mg/L		103	85 - 115	2	20
Thallium	0.100	0.105		mg/L		105	85 - 115	3	20

Lab Sample ID: 550-164826-K-1-D MS
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 244341

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000070	E4	0.100	0.0965		mg/L		96	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-164826-K-1-D MS
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 244341

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	E8	0.100	0.0981		mg/L		98	70 - 130
Barium	0.00033	E4	0.100	0.100		mg/L		100	70 - 130
Cadmium	0.000031	E4	0.100	0.0960		mg/L		96	70 - 130
Chromium	ND	E8	0.100	0.100		mg/L		100	70 - 130
Cobalt	ND	E8	0.100	0.0988		mg/L		99	70 - 130
Lead	ND	E8	0.100	0.0938		mg/L		94	70 - 130
Molybdenum	0.00024	E4	0.100	0.0971		mg/L		97	70 - 130
Selenium	ND	E8	0.100	0.0967		mg/L		97	70 - 130
Thallium	0.00018		0.100	0.0983		mg/L		98	70 - 130

Lab Sample ID: 550-164826-K-1-E MSD
Matrix: Water
Analysis Batch: 244515

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 244341

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000070	E4	0.100	0.0988		mg/L		99	70 - 130	2	20
Arsenic	ND	E8	0.100	0.0985		mg/L		98	70 - 130	0	20
Barium	0.00033	E4	0.100	0.112		mg/L		111	70 - 130	11	20
Cadmium	0.000031	E4	0.100	0.0985		mg/L		98	70 - 130	3	20
Chromium	ND	E8	0.100	0.100		mg/L		100	70 - 130	0	20
Cobalt	ND	E8	0.100	0.0982		mg/L		98	70 - 130	1	20
Lead	ND	E8	0.100	0.0998		mg/L		100	70 - 130	6	20
Molybdenum	0.00024	E4	0.100	0.0999		mg/L		100	70 - 130	3	20
Selenium	ND	E8	0.100	0.0982		mg/L		98	70 - 130	2	20
Thallium	0.00018		0.100	0.0972		mg/L		97	70 - 130	1	20

Lab Sample ID: MB 550-244462/1-A
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 12:47	1

Lab Sample ID: LCS 550-244462/2-A
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.0992		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-244462/3-A
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244462

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.100	0.0962		mg/L		96	85 - 115	3	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-244391/1-B
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Method Blank
Prep Type: Dissolved
Prep Batch: 244462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/07/21 07:01	06/08/21 13:01	1

Lab Sample ID: 550-164806-A-2-B MS
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 244462

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.00040	E4	0.100	0.0959		mg/L		95	70 - 130

Lab Sample ID: 550-164806-A-2-C MSD
Matrix: Water
Analysis Batch: 244665

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 244462

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.00040	E4	0.100	0.0953		mg/L		95	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-244689/1-A
Matrix: Water
Analysis Batch: 244699

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 244689

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		06/08/21 16:45	06/08/21 19:30	1

Lab Sample ID: LCS 550-244689/2-A
Matrix: Water
Analysis Batch: 244699

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 244689

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00506		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-244689/3-A
Matrix: Water
Analysis Batch: 244699

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 244689

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00525		mg/L		105	85 - 115	4	20

Lab Sample ID: 550-164785-1 MS
Matrix: Water
Analysis Batch: 244699

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA
Prep Batch: 244689

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00497		mg/L		99	70 - 130

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: 550-164785-1 MSD
Matrix: Water
Analysis Batch: 244699

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA
Prep Batch: 244689

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00507		mg/L		101	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-244452/21
Matrix: Water
Analysis Batch: 244452

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			06/06/21 08:54	1

Lab Sample ID: LCS 550-244452/22
Matrix: Water
Analysis Batch: 244452

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.992		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-244452/23
Matrix: Water
Analysis Batch: 244452

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	0.994		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-164826-I-1 MS
Matrix: Water
Analysis Batch: 244452

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8 M1	1.00	1.06		mg/L		106	90 - 110

Lab Sample ID: 550-164826-I-1 MSD
Matrix: Water
Analysis Batch: 244452

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8 M1	1.00	1.11	M1	mg/L		111	90 - 110	4	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-244459/6
Matrix: Water
Analysis Batch: 244459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 09:52	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 09:52	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 09:52	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/06/21 09:52	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-244459/6
Matrix: Water
Analysis Batch: 244459

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/06/21 09:52	1

Lab Sample ID: LCS 550-244459/5
Matrix: Water
Analysis Batch: 244459

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	241		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-244459/17
Matrix: Water
Analysis Batch: 244459

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	240		mg/L		96	90 - 110	0	20

Lab Sample ID: 550-164785-1 DU
Matrix: Water
Analysis Batch: 244459

Client Sample ID: CH-CCR-P226A-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	72		74.0		mg/L		3	20
Bicarbonate Alkalinity as CaCO3	72		74.0		mg/L		3	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-244288/1
Matrix: Water
Analysis Batch: 244288

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			06/04/21 06:55	1

Lab Sample ID: LCS 550-244288/2
Matrix: Water
Analysis Batch: 244288

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	958		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-244288/3
Matrix: Water
Analysis Batch: 244288

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	918		mg/L		92	90 - 110	4	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 550-164785-3 DU
Matrix: Water
Analysis Batch: 244288

Client Sample ID: CH-CCR-P226B-0621
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7300	D2	7040	D2	mg/L		3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-244697/1
Matrix: Water
Analysis Batch: 244697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.3	98.5 - 101.5

Lab Sample ID: LCSSRM 550-244697/12
Matrix: Water
Analysis Batch: 244697

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-164709-B-4 DU
Matrix: Water
Analysis Batch: 244697

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	8.0	H5	8.1	H5	SU		0.4	5
Temperature	6.8	H5	7.6	H5	Degrees C		11	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-244794/5
Matrix: Water
Analysis Batch: 244794

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			06/08/21 19:36	1

Lab Sample ID: LCS 550-244794/6
Matrix: Water
Analysis Batch: 244794

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	18.3		mg/L		92	90 - 110
Total Organic Carbon - Duplicates	20.0	18.3		mg/L		92	90 - 110
Total Organic Carbon - Quad	20.0	18.3		mg/L		92	90 - 110

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCSD 550-244794/7
Matrix: Water
Analysis Batch: 244794

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	18.5		mg/L		92	90 - 110	1	20
Total Organic Carbon - Duplicates			20.0	18.5		mg/L		92	90 - 110	1	20
Total Organic Carbon - Quad			20.0	18.5		mg/L		92	90 - 110	1	20

Lab Sample ID: 550-164841-A-1 MS ^4
Matrix: Water
Analysis Batch: 244794

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	6.4	D1	80.0	80.8	D1	mg/L		93	90 - 110		
Total Organic Carbon - Duplicates	6.4	D1	80.0	80.8	D1	mg/L		93	90 - 110		
Total Organic Carbon - Quad	6.4	D1	80.0	80.8	D1	mg/L		93	90 - 110		

Lab Sample ID: 550-164841-A-1 MSD ^4
Matrix: Water
Analysis Batch: 244794

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.4	D1	80.0	80.4	D1	mg/L		92	90 - 110	1	20
Total Organic Carbon - Duplicates	6.4	D1	80.0	80.4	D1	mg/L		92	90 - 110	1	20
Total Organic Carbon - Quad	6.4	D1	80.0	80.4	D1	mg/L		92	90 - 110	1	20

Lab Sample ID: MB 550-244965/5
Matrix: Water
Analysis Batch: 244965

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			06/09/21 18:21	1

Lab Sample ID: LCS 550-244965/6
Matrix: Water
Analysis Batch: 244965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			20.0	18.2		mg/L		91	90 - 110		
Total Organic Carbon - Duplicates			20.0	18.2		mg/L		91	90 - 110		
Total Organic Carbon - Quad			20.0	18.2		mg/L		91	90 - 110		

Lab Sample ID: LCSD 550-244965/7
Matrix: Water
Analysis Batch: 244965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	18.3		mg/L		91	90 - 110	0	20
Total Organic Carbon - Duplicates			20.0	18.3		mg/L		91	90 - 110	0	20
Total Organic Carbon - Quad			20.0	18.3		mg/L		91	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: 550-164930-A-13 MS
Matrix: Water
Analysis Batch: 244965

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110		
Total Organic Carbon - Duplicates	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110		
Total Organic Carbon - Quad	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110		

Lab Sample ID: 550-164930-A-13 MSD
Matrix: Water
Analysis Batch: 244965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110	0	20
Total Organic Carbon - Duplicates	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110	0	20
Total Organic Carbon - Quad	1.7	M2	20.0	19.1	M2	mg/L		87	90 - 110	0	20

HPLC/IC

Analysis Batch: 244323

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	300.0	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	300.0	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	300.0	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	300.0	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	300.0	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	300.0	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	300.0	
MB 550-244323/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-244323/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-244323/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-164785-1 MS	CH-CCR-P226A-0621	Total/NA	Water	300.0	
550-164785-1 MSD	CH-CCR-P226A-0621	Total/NA	Water	300.0	

Analysis Batch: 244325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	300.0	
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	300.0	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	300.0	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	300.0	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	300.0	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	300.0	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	300.0	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	300.0	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	300.0	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	300.0	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	300.0	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	300.0	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	300.0	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	300.0	
MB 550-244325/2	Method Blank	Total/NA	Water	300.0	
LCS 550-244325/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-244325/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-164785-1 MS	CH-CCR-P226A-0621	Total/NA	Water	300.0	
550-164785-1 MSD	CH-CCR-P226A-0621	Total/NA	Water	300.0	

Metals

Prep Batch: 244249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.7	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.7	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.7	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.7	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.7	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.7	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.7	
MB 550-244249/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-244249/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-244249/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-164776-C-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-164776-C-1-A MS T	Matrix Spike	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 244249 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164776-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-164776-C-1-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 244341

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.8	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.8	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.8	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.8	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.8	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.8	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.8	
MB 550-244341/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-244341/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-244341/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-164826-K-1-D MS	Matrix Spike	Total/NA	Water	200.8	
550-164826-K-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Filtration Batch: 244391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-2	CH-CCR-P226A-0621	Dissolved	Water	Filtration	
550-164785-4	CH-CCR-P226B-0621	Dissolved	Water	Filtration	
550-164785-6	CH-CCR-P226C-0621	Dissolved	Water	Filtration	
550-164785-8	CH-CCR-P226D-0621	Dissolved	Water	Filtration	
550-164785-10	CH-CCR-P226E-0621	Dissolved	Water	Filtration	
550-164785-12	CH-CCR-P226G-0621	Dissolved	Water	Filtration	
550-164785-14	CH-CCR-P226H-0621	Dissolved	Water	Filtration	
MB 550-244391/1-B	Method Blank	Dissolved	Water	Filtration	
MB 550-244391/1-C	Method Blank	Dissolved	Water	Filtration	
550-164884-D-4-B MS	Matrix Spike	Dissolved	Water	Filtration	
550-164884-D-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	Filtration	

Prep Batch: 244462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-2	CH-CCR-P226A-0621	Dissolved	Water	200.8	244391
550-164785-4	CH-CCR-P226B-0621	Dissolved	Water	200.8	244391
550-164785-6	CH-CCR-P226C-0621	Dissolved	Water	200.8	244391
550-164785-8	CH-CCR-P226D-0621	Dissolved	Water	200.8	244391
550-164785-10	CH-CCR-P226E-0621	Dissolved	Water	200.8	244391
550-164785-12	CH-CCR-P226G-0621	Dissolved	Water	200.8	244391
550-164785-14	CH-CCR-P226H-0621	Dissolved	Water	200.8	244391
MB 550-244391/1-B	Method Blank	Dissolved	Water	200.8	244391
MB 550-244462/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-244462/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-244462/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-164806-A-2-B MS	Matrix Spike	Dissolved	Water	200.8	
550-164806-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

Prep Batch: 244493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-2	CH-CCR-P226A-0621	Dissolved	Water	200.7	244391

Metals (Continued)

Prep Batch: 244493 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-4	CH-CCR-P226B-0621	Dissolved	Water	200.7	244391
550-164785-6	CH-CCR-P226C-0621	Dissolved	Water	200.7	244391
550-164785-8	CH-CCR-P226D-0621	Dissolved	Water	200.7	244391
550-164785-10	CH-CCR-P226E-0621	Dissolved	Water	200.7	244391
550-164785-12	CH-CCR-P226G-0621	Dissolved	Water	200.7	244391
550-164785-14	CH-CCR-P226H-0621	Dissolved	Water	200.7	244391
MB 550-244391/1-C	Method Blank	Dissolved	Water	200.7	244391
MB 550-244493/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-244493/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-244493/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-164884-D-4-B MS	Matrix Spike	Dissolved	Water	200.7	244391
550-164884-D-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	244391

Analysis Batch: 244515

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.8 LL	244341
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.8 LL	244341
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.8 LL	244341
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.8 LL	244341
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.8 LL	244341
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.8 LL	244341
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.8 LL	244341
MB 550-244341/1-A	Method Blank	Total/NA	Water	200.8 LL	244341
LCS 550-244341/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	244341
LCSD 550-244341/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	244341
550-164826-K-1-D MS	Matrix Spike	Total/NA	Water	200.8 LL	244341
550-164826-K-1-E MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	244341

Analysis Batch: 244594

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.7 Rev 4.4	244249
MB 550-244249/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	244249
LCS 550-244249/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	244249
LCSD 550-244249/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	244249
550-164776-C-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	244249
550-164776-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	244249

Analysis Batch: 244665

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-2	CH-CCR-P226A-0621	Dissolved	Water	200.8 LL	244462
550-164785-4	CH-CCR-P226B-0621	Dissolved	Water	200.8 LL	244462
550-164785-6	CH-CCR-P226C-0621	Dissolved	Water	200.8 LL	244462
550-164785-8	CH-CCR-P226D-0621	Dissolved	Water	200.8 LL	244462
550-164785-10	CH-CCR-P226E-0621	Dissolved	Water	200.8 LL	244462
550-164785-12	CH-CCR-P226G-0621	Dissolved	Water	200.8 LL	244462

Metals (Continued)

Analysis Batch: 244665 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-14	CH-CCR-P226H-0621	Dissolved	Water	200.8 LL	244462
MB 550-244391/1-B	Method Blank	Dissolved	Water	200.8 LL	244462
MB 550-244462/1-A	Method Blank	Total/NA	Water	200.8 LL	244462
LCS 550-244462/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	244462
LCSD 550-244462/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	244462
550-164806-A-2-B MS	Matrix Spike	Dissolved	Water	200.8 LL	244462
550-164806-A-2-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	244462

Prep Batch: 244689

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	245.1	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	245.1	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	245.1	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	245.1	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	245.1	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	245.1	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	245.1	
MB 550-244689/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-244689/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-244689/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-164785-1 MS	CH-CCR-P226A-0621	Total/NA	Water	245.1	
550-164785-1 MSD	CH-CCR-P226A-0621	Total/NA	Water	245.1	

Analysis Batch: 244699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	245.1	244689
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	245.1	244689
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	245.1	244689
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	245.1	244689
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	245.1	244689
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	245.1	244689
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	245.1	244689
MB 550-244689/1-A	Method Blank	Total/NA	Water	245.1	244689
LCS 550-244689/2-A	Lab Control Sample	Total/NA	Water	245.1	244689
LCSD 550-244689/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	244689
550-164785-1 MS	CH-CCR-P226A-0621	Total/NA	Water	245.1	244689
550-164785-1 MSD	CH-CCR-P226A-0621	Total/NA	Water	245.1	244689

Analysis Batch: 244736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.7 Rev 4.4	244249
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.7 Rev 4.4	244249
MB 550-244249/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	244249
LCS 550-244249/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	244249
LCSD 550-244249/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	244249
550-164776-C-1-A MS T	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	244249

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals (Continued)

Analysis Batch: 244736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164776-C-1-B MSD T	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	244249

Analysis Batch: 244738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-2	CH-CCR-P226A-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-4	CH-CCR-P226B-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-6	CH-CCR-P226C-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-8	CH-CCR-P226D-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-10	CH-CCR-P226E-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-12	CH-CCR-P226G-0621	Dissolved	Water	200.7 Rev 4.4	244493
550-164785-14	CH-CCR-P226H-0621	Dissolved	Water	200.7 Rev 4.4	244493
MB 550-244391/1-C	Method Blank	Dissolved	Water	200.7 Rev 4.4	244493
MB 550-244493/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	244493
LCS 550-244493/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	244493
LCSD 550-244493/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	244493
550-164884-D-4-B MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	244493
550-164884-D-4-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	244493

Prep Batch: 539218

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.7	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.7	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.7	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.7	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.7	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.7	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.7	
MB 280-539218/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-539218/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-149492-C-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-149492-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 540381

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	200.7 Rev 4.4	539218
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	200.7 Rev 4.4	539218
MB 280-539218/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	539218
LCS 280-539218/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	539218
280-149492-C-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	539218
280-149492-C-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	539218

General Chemistry

Analysis Batch: 244288

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 244288 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	SM 2540C	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	SM 2540C	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	SM 2540C	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	SM 2540C	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	SM 2540C	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	SM 2540C	
MB 550-244288/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-244288/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-244288/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-164785-3 DU	CH-CCR-P226B-0621	Total/NA	Water	SM 2540C	

Analysis Batch: 244452

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	350.1	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	350.1	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	350.1	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	350.1	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	350.1	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	350.1	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	350.1	
MB 550-244452/21	Method Blank	Total/NA	Water	350.1	
LCS 550-244452/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-244452/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-164826-I-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-164826-I-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 244459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	SM 2320B	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	SM 2320B	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	SM 2320B	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	SM 2320B	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	SM 2320B	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	SM 2320B	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	SM 2320B	
MB 550-244459/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-244459/5	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-244459/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-164785-1 DU	CH-CCR-P226A-0621	Total/NA	Water	SM 2320B	

Analysis Batch: 244697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	SM 4500 H+ B	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-244697/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-244697/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 244697 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164709-B-4 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 244794

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-3	CH-CCR-P226B-0621	Total/NA	Water	SM 5310B	
550-164785-5	CH-CCR-P226C-0621	Total/NA	Water	SM 5310B	
550-164785-7	CH-CCR-P226D-0621	Total/NA	Water	SM 5310B	
550-164785-9	CH-CCR-P226E-0621	Total/NA	Water	SM 5310B	
550-164785-11	CH-CCR-P226G-0621	Total/NA	Water	SM 5310B	
550-164785-13	CH-CCR-P226H-0621	Total/NA	Water	SM 5310B	
MB 550-244794/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-244794/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-244794/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-164841-A-1 MS ^4	Matrix Spike	Total/NA	Water	SM 5310B	
550-164841-A-1 MSD ^4	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 244965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-164785-1	CH-CCR-P226A-0621	Total/NA	Water	SM 5310B	
MB 550-244965/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-244965/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-244965/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-164930-A-13 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-164930-A-13 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Client Sample ID: CH-CCR-P226A-0621
Lab Sample ID: 550-164785-1
Date Collected: 06/01/21 12:12
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 16:09	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 16:27	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 02:02	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 00:47	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:19	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 16:47	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:22	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:38	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:25	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 11:31	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244965	06/09/21 19:46	MEG	TAL PHX

Client Sample ID: CH-CCR-P226A-0621
Lab Sample ID: 550-164785-2
Date Collected: 06/01/21 12:12
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:01	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:03	ARE	TAL PHX

Client Sample ID: CH-CCR-P226B-0621
Lab Sample ID: 550-164785-3
Date Collected: 06/01/21 12:27
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 17:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 17:41	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 03:24	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 00:51	MGM	TAL PHX

Client Sample ID: CH-CCR-P226B-0621

Lab Sample ID: 550-164785-3

Date Collected: 06/01/21 12:27

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:23	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 16:50	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:24	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:39	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:27	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 11:49	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 22:14	MEG	TAL PHX

Client Sample ID: CH-CCR-P226B-0621

Lab Sample ID: 550-164785-4

Date Collected: 06/01/21 12:27

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:05	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:05	ARE	TAL PHX

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-5

Date Collected: 06/01/21 12:51

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 17:59	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 18:18	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 03:52	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 00:55	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:27	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 16:54	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:26	ARE	TAL PHX

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-5
Date Collected: 06/01/21 12:51
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:41	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:28	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 11:57	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 22:49	MEG	TAL PHX

Client Sample ID: CH-CCR-P226C-0621

Lab Sample ID: 550-164785-6
Date Collected: 06/01/21 12:51
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:09	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:08	ARE	TAL PHX

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-7
Date Collected: 06/01/21 13:03
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 18:36	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 18:54	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 04:19	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 00:59	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:31	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 16:57	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:28	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:42	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:30	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 12:06	DGS	TAL PHX

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-7

Date Collected: 06/01/21 13:03

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 23:00	MEG	TAL PHX

Client Sample ID: CH-CCR-P226D-0621

Lab Sample ID: 550-164785-8

Date Collected: 06/01/21 13:03

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:12	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:10	ARE	TAL PHX

Client Sample ID: CH-CCR-P226E-0621

Lab Sample ID: 550-164785-9

Date Collected: 06/01/21 13:20

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 19:50	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 20:08	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 04:47	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 01:02	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:34	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 17:00	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:30	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:44	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:31	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 12:15	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 23:11	MEG	TAL PHX

Client Sample ID: CH-CCR-P226E-0621

Lab Sample ID: 550-164785-10

Date Collected: 06/01/21 13:20

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:16	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:12	ARE	TAL PHX

Client Sample ID: CH-CCR-P226G-0621

Lab Sample ID: 550-164785-11

Date Collected: 06/01/21 13:55

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 20:26	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 20:45	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 05:14	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 01:06	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:38	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 17:04	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:32	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:45	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:33	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 12:23	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 23:21	MEG	TAL PHX

Client Sample ID: CH-CCR-P226G-0621

Lab Sample ID: 550-164785-12

Date Collected: 06/01/21 13:55

Matrix: Water

Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:20	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:14	ARE	TAL PHX

Client Sample ID: CH-CCR-P226H-0621
Lab Sample ID: 550-164785-13

Date Collected: 06/01/21 14:21
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	244325	06/03/21 21:03	JRP	TAL PHX
Total/NA	Analysis	300.0		200	244325	06/03/21 21:22	JRP	TAL PHX
Total/NA	Analysis	300.0		5	244323	06/04/21 05:41	JRP	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	244594	06/08/21 00:36	MGM	TAL PHX
Total/NA	Prep	200.7			244249	06/03/21 15:16	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	244736	06/09/21 00:15	MGM	TAL PHX
Total/NA	Prep	200.7			539218	06/10/21 07:47	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540381	06/17/21 17:07	LMT	TAL DEN
Total/NA	Prep	200.8			244341	06/04/21 10:45	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	244515	06/07/21 10:34	ARE	TAL PHX
Total/NA	Prep	245.1			244689	06/08/21 16:45	SRR	TAL PHX
Total/NA	Analysis	245.1		1	244699	06/08/21 19:47	SRR	TAL PHX
Total/NA	Analysis	350.1		1	244452	06/06/21 09:34	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	244459	06/06/21 12:31	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	244288		YET	TAL PHX
					(Start)	06/04/21 06:55		
					(End)	06/07/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	244697	06/08/21 16:35	MXN	TAL PHX
Total/NA	Analysis	SM 5310B		1	244794	06/08/21 23:32	MEG	TAL PHX

Client Sample ID: CH-CCR-P226H-0621
Lab Sample ID: 550-164785-14

Date Collected: 06/01/21 14:21
Matrix: Water
Date Received: 06/03/21 11:03

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.7			244493	06/07/21 08:30	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	244738	06/09/21 02:24	MGM	TAL PHX
Dissolved	Filtration	Filtration			244391	06/04/21 15:58	MGM	TAL PHX
Dissolved	Prep	200.8			244462	06/07/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	244665	06/08/21 13:16	ARE	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21 *
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-164785-1
SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX
Filtration	Sample Filtration	None	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

164785

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other: CCR

TestAmerica Laboratories, Inc

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.8 - Dissolved (Co)	SM 5310B (TOC)	SM 2320B - CO3 & HCO3 Alkalinity as CaCO3	Sample Specific Notes:
CH-CCR-P226A-0621 -01 +02	6/1/2021	12:12	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-3
CH-CCR-P226B-0621 -03 +04	6/1/2021	12:27	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-4
CH-CCR-P226C-0621 -05 +06	6/1/2021	12:51	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-5
CH-CCR-P226D-0621 -07 +08	6/1/2021	13:03	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-6
CH-CCR-P226E-0621 -09 +10	6/1/2021	13:20	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-7
CH-CCR-P226G-0621 -11 +12	6/2/2021	13:55	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-9
CH-CCR-P226H-0621 -13 +14	6/1/2021	14:21	G	W	8	N		X		X	X		X	X	X		X	X		X	X	X	X	Seepage system sample, TWX-10
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3	4	4	4	2	1	

550-164785 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; please filter in lab and perform dissolved analyses with sample provided in bottles marked 'to be filtered'.*

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Alan Wueller	Wood	6/3/21 11:03			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole [illegible]	Company: ETA Phx	Date/Time: 6/3/21 1103

0.9°C, 2.1°C ICE CDO

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31062.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-164785-1
Address: 4955 Yarrow Street,	Due Date Requested: 6/16/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
CH-CCR-P226A-0621 (550-164785-1)	6/1/21	12:12 Arizona		Water			X	1	AZ Sample
CH-CCR-P226B-0621 (550-164785-3)	6/1/21	12:27 Arizona		Water			X	1	AZ Sample
CH-CCR-P226C-0621 (550-164785-5)	6/1/21	12:51 Arizona		Water			X	1	AZ Sample
CH-CCR-P226D-0621 (550-164785-7)	6/1/21	13:03 Arizona		Water			X	1	AZ Sample
CH-CCR-P226E-0621 (550-164785-9)	6/1/21	13:20 Arizona		Water			X	1	AZ Sample
CH-CCR-P226G-0621 (550-164785-11)	6/1/21	13:55 Arizona		Water			X	1	AZ Sample
CH-CCR-P226H-0621 (550-164785-13)	6/1/21	14:21 Arizona		Water			X	1	AZ Sample

550-164785 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2 | Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:	
Relinquished by: Eua 06-04-21	Date/Time: 14:50	Company: TAPHX	Received by: Fedex		Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]		Date/Time: 6/5/21 0935	Company: ETA Den
Relinquished by:	Date/Time:	Company:	Received by:		Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.3 #11, 0.4 IR			

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-164785-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 164785
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-164785-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 164785
List Number: 2
Creator: Cavalli, Haden G

List Source: Eurofins TestAmerica, Denver
List Creation: 06/05/21 11:24 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M52-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

5/14/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 17, 2021 — Sample Date

9:15 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66509

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M52-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M53-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

Robert L. Metzger, Ph.D., C.H.P. 5/14/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 17, 2021 — Sample Date

12:30 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66510

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M53-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 18, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M55-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

5/14/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______

PWS Name: ______

April 18, 2021 — Sample Date

9:09 — Sample Time (24 hour clock)

______ Owner/Contact Person

______ Owner/Contact Fax Number

______ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______

Date Q2 collected: ______

Date Q3 collected: ______

Date Q4 collected: ______

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66511

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M55-0421

Authorized Signature: Robert L Metzger

Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M69-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

5/14/2021

Robert L. Metzger, Ph.D., C.H.P.   Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 17, 2021 — Sample Date

8:35 (24 hour clock) — Sample Time

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66512

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M69-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M70-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

Robert L. Metzger, Ph.D., C.H.P. 5/14/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________

April 17, 2021 7:53 (24 hour clock) ______________________
Sample Date Sample Time Owner/Contact Person

______________________ ______________________
Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________
☐ Quarterly — Date Q2 collected: ____________
☐ Composite of four quarterly samples — Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66513
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M70-0421
Authorized Signature: Robert L Metzger
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W301-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

Robert L. Metzger, Ph.D., C.H.P. — 5/14/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution Sy tem (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 17, 2021 — Sample Date
14:15 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66514

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W301-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W302-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

5/14/2021
Robert L. Metzger, Ph.D., C.H.P. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 17, 2021 — Sample Date

15:05 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66515

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W302-0421

Authorized Signature: Robert L Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W303-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

Robert L. Metzger, Ph.D., C.H.P. — 5/14/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 17, 2021 — Sample Date

13:31 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66516

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W303-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 18, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W304-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	4/30/2021	4/30/2021	4/30/2021

Robert L. Metzger, Ph.D., C.H.P. 5/14/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 18, 2021 — Sample Date

6:39 (24 hour clock) — Sample Time

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66517

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W304-0421

Authorized Signature: Robert L Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 14, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD03-0421	< 0.5	< 0.7	< 0.7
Date of Analysis	4/30/2021	4/30/2021	4/30/2021

5/14/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 17, 2021 — Sample Date
12:30 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	4/30/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	4/30/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	4/30/2021	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66518
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-FD03-0421
Authorized Signature: Robert L. Metzger
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street — Chandler, Arizona 85225

Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (BAP)

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-M52-0421	4/17/2021	9:15	GW						X	X	X						66509
CH-CCR-M53-0421	4/17/2021	12:30	GW						X	X	X						66510
CH-CCR-M55-0421	4/18/2021	9:09	GW						X	X	X						66511
CH-CCR-M69-0421	4/17/2021	8:35	GW						X	X	X						66512
CH-CCR-M70-0421	4/17/2021	7:53	GW						X	X	X						66513
CH-CCR-W301-0421	4/17/2021	14:15	GW						X	X	X						66514
CH-CCR-W302-0421	4/17/2021	15:05	GW						X	X	X						66515
CH-CCR-W303-0421	4/17/2021	13:31	GW						X	X	X						66516
CH-CCR-W304-0421	4/18/2021	6:39	GW						X	X	X						66517
CH-CCR-FD03-0421	4/17/2021	12:30	GW						X	X	X						66518

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			Method HPGe
Chain of Custody Seals			PO #: 300588231
Container Condition			
Lab No.			

Relinquished By: [signature]	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4.29.21
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time: 12:10
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W305-0421	< 0.5	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 17, 2021 — Sample Date

11:17 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66519

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W305-0421

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W306-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

April 17, 2021 — Sample Date
10:07 (24 hour clock) — Sample Time
Owner/Contact Person: ______

Owner/Contact Fax Number: ______
Owner/Contact Phone Number: ______

Sample Collection Point
☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______
☐ Quarterly — Date Q2 collected: ______
☐ Composite of four quarterly samples — Date Q3 collected: ______
Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66520
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W306-0421
Authorized Signature:
Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 18, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W307-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 18, 2021 Sample Date

7:30 Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66521

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W307-0421

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 18, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W308-0421	< 0.5	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 18, 2021 | 8:25 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.5		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66522

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W308-0421

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 18, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W309-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 18, 2021 — Sample Date 10:03 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66523

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W309-0421

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W314-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 16, 2021 — Sample Date

14:45 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66524

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W314-0421

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W317-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE — Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 14, 2021 — Sample Date

10:27 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66525

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W317-0421

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-BAP-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 16, 2021	10:10	(24 hour clock)	
Sample Date	Sample Time		Owner/Contact Person

Owner/Contact Fax Number ______________ Owner/Contact Phone Number ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66526

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-BAR-0421

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-BAPTD-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 17, 2021 — Sample Date

11:45 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66527

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-BAPTD-0421

Authorized Signature:

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 17, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD04-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 17, 2021 — Sample Date

11:45 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66528

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD04-0421

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (BAP)

Radiation Safety Engineering, Inc.

3245 North Washington Street

Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-W305-0421	4/17/2021	11:17	GW						X	X	X						66519
CH-CCR-W306-0421	4/17/2021	10:07	GW						X	X	X						66520
CH-CCR-W307-0421	4/18/2021	7:30	GW						X	X	X						66521
CH-CCR-W308-0421	4/18/2021	8:25	GW						X	X	X						66522
CH-CCR-W309-0421	4/18/2021	10:03	GW						X	X	X						66523
CH-CCR-W314-0421	4/16/2021	14:45	GW						X	X	X						66524
CH-CCR-W317-0421	4/14/2021	10:27	GW						X	X	X						66525
CH-CCR-BAP-0421	4/16/2021	10:10	GW						X	X	X						66526
CH-CCR-BAPTD-0421	4/17/2021	11:45	GW						X	X	X						66527
CH-CCR-FD04-0421	4/17/2021	11:45	GW						X	X	X						66528

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments

Method HPGe

PO #: 300588231

Relinguished By:	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4.29.21 12:10
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-Petroglyph-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/17/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______

PWS Name: ______

April 16, 2021 — Sample Date

16:10 — Sample Time (24 hour clock)

Owner/Contact Person: ______

Owner/Contact Fax Number: ______

Owner/Contact Phone Number: ______

Sample Collection Point

☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______

Date Q2 collected: ______

Date Q3 collected: ______

Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66549

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-Petroglyph-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 17, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-TanWash-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/17/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 16, 2021 15:35 (24 hour clock)

Sample Date Sample Time Owner/Contact Person

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring Date Q1 collected: ______________

☐ Quarterly Date Q2 collected: ______________

☐ Composite of four quarterly samples Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66550

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-TanWash-0421

Authorized Signature: Robert L Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street — Chandler, Arizona 85225

Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (BAP)

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-Petroglyph-0421	4/16/2021	16:10	GW						X	X	X						66549
CH-CCR-TanWash-0421	4/16/2021	15:35	GW						X	X	X						66550

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			Method HPGe
Chain of Custody Seals			PO #: 300588231
Container Condition			
Lab No.			

Relinquished By: [signature]	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4-29-21 12:10
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226A-0621	< 0.5	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

June 1, 2021 — Sample Date
12:12 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66750

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226A-0621

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226B-0621	< 0.5	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

June 1, 2021 | 12:27 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66751

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226B-0621

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226C-0621	< 0.4	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

June 1, 2021 — Sample Date

12:51 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66752

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226C-0621

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226D-0621	< 0.4	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Dr nking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

June 1, 2021 — Sample Date
13:03 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66753

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226D-0621

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226E-0621	< 0.5	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ________ PWS Name: ________

June 1, 2021 — Sample Date
13:20 (24 hour clock) — Sample Time
________ Owner/Contact Person

________ Owner/Contact Fax Number
________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ________
☐ Quarterly — Date Q2 collected: ________
☐ Composite of four quarterly samples — Date Q3 collected: ________
Date Q4 collected: ________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66754
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-P226E-0621
Authorized Signature: [signature]
Date Public Water System Notified: ________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226G-0621	< 0.5	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

June 1, 2021 — Sample Date | 13:55 — Sample Time (24 hour clock) | Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________ Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8		
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.5		
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66755

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226G-0621

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: June 01, 2021
Sample Received: June 03, 2021
Analysis Completed: June 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-P226H-0621	< 0.5	< 0.8	< 0.8

Date of Analysis	6/4/2021	6/4/2021	6/4/2021

6/15/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ________________ PWS Name: ______________________

June 1, 2021 — Sample Date
14:21 (24 hour clock) — Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: __________

☐ Quarterly — Date Q2 collected: __________

☐ Composite of four quarterly samples — Date Q3 collected: __________

Date Q4 collected: __________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	6/4/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	6/4/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	6/4/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66756

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-P226H-0621

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Client Information				Radiation Safety Engineering, Inc.
Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241			3245 North Washington Street — Chandler, Arizona 85225
Company	Arizona Public Service			**Analysis Request**
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032			
Phone	928-587-0319			
Site	APS Cholla Power Plant (BAP)			

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-P226A-0621	6/1/2021	12:12	GW						X	X	X						66750
CH-CCR-P226B-0621	6/1/2021	12:27	GW						X	X	X						66751
CH-CCR-P226C-0621	6/1/2021	12:51	GW						X	X	X						66752
CH-CCR-P226D-0621	6/1/2021	13:03	GW						X	X	X						66753
CH-CCR-P226E-0621	6/1/2021	13:20	GW						X	X	X						66754
CH-CCR-P226G-0621	6/1/2021	13:55	GW						X	X	X						66755
CH-CCR-P226H-0621	6/1/2021	14:21	GW						X	X	X						66756

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			**Method HPGe**
Chain of Custody Seals			**PO #: 300588231**
Container Condition			For P-226 seepage extraction wells TWX-1 through TWX-7, TWX-9, and TWX-10
Lab No.			

Relinquished By:	Company: Wood	Date/time: 6/3/21 11:41	Received By: Pat Flannery	Company: RSE	Date/time: 6/3/21	11:41
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:	
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:	

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-173411-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Rachel E. Sester

Authorized for release by:
11/26/2021 3:13:07 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H3	Sample was received and/ or analysis requested past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
N1	See case narrative.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-173411-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-173411-1

Revision
This report was revised on 11/26/21 to correct the sampling time of the following samples to 15:47: CH-CCR-M55-1021 (550-173411-5), CH-CCR-M55-1021 (550-173411-6). This final report replaces the report that was generated on 11/17/21 at 8:56 AM.

Comments
No additional comments.

Receipt
The samples were received on 11/1/2021 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.2º C, 1.3º C, 1.4º C, 2.4º C and 2.9º C.

Receipt Exceptions
The following sample(s) was received outside of holding time:

Client sampled from 10/21/21 to 10/31/21.
Some of the TDS samples were received past hold.

#23
#25
#47

CH-CCR-M52-1021 (550-173411-1), CH-CCR-M52-1021 (550-173411-2), CH-CCR-M53-1021 (550-173411-3), CH-CCR-M53-1021 (550-173411-4), CH-CCR-M55-1021 (550-173411-5), CH-CCR-M55-1021 (550-173411-6), CH-CCR-M69-1021 (550-173411-7), CH-CCR-M69-1021 (550-173411-8), CH-CCR-M70-1021 (550-173411-9), CH-CCR-M70-1021 (550-173411-10), CH-CCR-M71-1021 (550-173411-11), CH-CCR-M71-1021 (550-173411-12), CH-CCR-M72-1021 (550-173411-13), CH-CCR-M72-1021 (550-173411-14), CH-CCR-M73-1021 (550-173411-15), CH-CCR-M73-1021 (550-173411-16), CH-CCR-M74-1021 (550-173411-17), CH-CCR-M74-1021 (550-173411-18), CH-CCR-M77-1021 (550-173411-19), CH-CCR-M77-1021 (550-173411-20), CH-CCR-M78-1021 (550-173411-21), CH-CCR-M78-1021 (550-173411-22), CH-CCR-FD03-1021 (550-173411-23), CH-CCR-FD03-1021 (550-173411-24), CH-CCR-M79-1021 (550-173411-25), CH-CCR-M79-1021 (550-173411-26), CH-CCR-W301-1021 (550-173411-27), CH-CCR-W301-1021 (550-173411-28), CH-CCR-W302-1021 (550-173411-29), CH-CCR-W302-1021 (550-173411-30), CH-CCR-W303-1021 (550-173411-31), CH-CCR-W303-1021 (550-173411-32), CH-CCR-W304-1021 (550-173411-33), CH-CCR-W304-1021 (550-173411-34), CH-CCR-W305-1021 (550-173411-35), CH-CCR-W305-1021 (550-173411-36), CH-CCR-W306-1021 (550-173411-37), CH-CCR-W306-1021 (550-173411-38), CH-CCR-W307R-1021 (550-173411-39), CH-CCR-W307R-1021 (550-173411-40), CH-CCR-W308-1021 (550-173411-41), CH-CCR-W308-1021 (550-173411-42), CH-CCR-W309-1021 (550-173411-43), CH-CCR-W309-1021 (550-173411-44), CH-CCR-W314-1021 (550-173411-45), CH-CCR-W314-1021 (550-173411-46), CH-CCR-W317-1021 (550-173411-47), CH-CCR-W317-1021 (550-173411-47[MS]), CH-CCR-W317-1021 (550-173411-47[MSD]), CH-CCR-W317-1021 (550-173411-48), CH-CCR-FD04-1021 (550-173411-49), CH-CCR-FD04-1021 (550-173411-50), CH-CCR-BAP-1021 (550-173411-51), CH-CCR-BAP-1021 (550-173411-52), CH-CCR-BAPTD-1021 (550-173411-53), CH-CCR-BAPTD-1021 (550-173411-54), CH-CCR-Petroglyph-1021 (550-173411-55), CH-CCR-Petroglyph-1021 (550-173411-56), CH-CCR-TanWash-1021 (550-173411-57), CH-CCR-TanWash-1021 (550-173411-58), CH-CCR-TWX3-1021 (550-173411-59), CH-CCR-TWX3-1021 (550-173411-60), CH-CCR-TWX4-1021 (550-173411-61), CH-CCR-TWX4-1021 (550-173411-62), CH-CCR-TWX5-1021 (550-173411-63), CH-CCR-TWX5-1021 (550-173411-64), CH-CCR-TWX6-1021 (550-173411-65), CH-CCR-TWX6-1021 (550-173411-66), CH-CCR-TWX7-1021 (550-173411-67), CH-CCR-TWX7-1021 (550-173411-68), CH-CCR-TWX8-1021 (550-173411-69), CH-CCR-TWX8-1021 (550-173411-70), CH-CCR-TWX9-1021 (550-173411-71), CH-CCR-TWX9-1021 (550-173411-72), CH-CCR-TWX10-1021 (550-173411-73) and CH-CCR-TWX10-1021 (550-173411-74).

HPLC/IC
Method 300.0: The results for the source sample and the matrix spike / matrix spike duplicate (MS/MSD) associated with analytical batch 550-257638 for Fluoride by method EPA 300.0 could not be reported due to the analyte concentration in the diluted sample exceeding the low end of the instrument calibration range. As such, reanalysis at a lower dilution was required and no results could be reported for the associated source sample. The results for the batch laboratory control sample / laboratory sample control duplicate (LCS/LCSD) met method acceptance criteria and may be used to verify accuracy and precision. Therefore, the following sample results have been reported

Job ID: 550-173411-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

and qualified with a N1 flag.

CH-CCR-W305-1021 (550-173411-35) and CH-CCR-W306-1021 (550-173411-37)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-257737 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 550-257482 and analytical batch 550-257737 contained Sodium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: CH-CCR-M72-1021 (550-173411-14). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-BAP-1021 (550-173411-51), CH-CCR-BAPTD-1021 (550-173411-53), CH-CCR-Petroglyph-1021 (550-173411-55), CH-CCR-TanWash-1021 (550-173411-57), CH-CCR-TWX3-1021 (550-173411-59), CH-CCR-TWX4-1021 (550-173411-61), CH-CCR-TWX5-1021 (550-173411-63), CH-CCR-TWX6-1021 (550-173411-65), CH-CCR-TWX7-1021 (550-173411-67), CH-CCR-TWX8-1021 (550-173411-69), CH-CCR-TWX9-1021 (550-173411-71) and CH-CCR-TWX10-1021 (550-173411-73). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The method blank for preparation batch 550-257482 and analytical batch 550-257837 contained Boron above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: CH-CCR-M72-1021 (550-173411-13). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M72-1021 (550-173411-13). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: Chromium was detected above the reporting limit (RL) in the method blank associated with preparation batch 550-257496 and analytical batch 550-258493 as well as in the following samples: CH-CCR-FD04-1021 (550-173411-49) and CH-CCR-TWX6-1021 (550-173411-65). All affected samples cannot be re-digested due to not enough sample remaining. Both sets of data have been reported.

Method 200.7: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: due to insufficient sample, the samples were prepared at half volume. Method:200.7 Prep Batch: 556271

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Method SM 5310B: The matrix spike (MS) recovery for analytical batch 550-258332 was outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-258332 were outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference and/or non-homogeneity were suspected because

Job ID: 550-173411-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

Method SM 5310B: The matrix spike duplicate (MSD) recovery for analytical batch 550-258432 was outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The results for Total Organic Carbon (TOC) by method SM 5310B for the following sample did not meet the method requirement for consecutive injections to have a relative percent difference (RPD) of at least 10 due to matrix interferences; CH-CCR-Petroglyph-1021 (550-173411-55) . The sample was analyzed two times with similar results. The result reported had the lowest RPD value between consecutive injections (RPD 14) which was slightly over the method limit. As such, the data has been reported and qualified with an N1 flag.

Method SM 5310B: The method blank for analytical batch 550-258432 contained Dissolved Organic Carbon (DOC) above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

Method SM 5310B: The method blank for analytical batch 550-258433 contained Total Organic Carbon (TOC) above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173411-1	CH-CCR-M52-1021	Water	10/29/21 11:28	11/01/21 15:48
550-173411-2	CH-CCR-M52-1021	Water	10/29/21 11:28	11/01/21 15:48
550-173411-3	CH-CCR-M53-1021	Water	10/28/21 16:18	11/01/21 15:48
550-173411-4	CH-CCR-M53-1021	Water	10/28/21 16:18	11/01/21 15:48
550-173411-5	CH-CCR-M55-1021	Water	10/27/21 15:47	11/01/21 15:48
550-173411-6	CH-CCR-M55-1021	Water	10/27/21 15:47	11/01/21 15:48
550-173411-7	CH-CCR-M69-1021	Water	10/29/21 12:28	11/01/21 15:48
550-173411-8	CH-CCR-M69-1021	Water	10/29/21 12:28	11/01/21 15:48
550-173411-9	CH-CCR-M70-1021	Water	10/29/21 14:28	11/01/21 15:48
550-173411-10	CH-CCR-M70-1021	Water	10/29/21 14:28	11/01/21 15:48
550-173411-11	CH-CCR-M71-1021	Water	10/30/21 11:08	11/01/21 15:48
550-173411-12	CH-CCR-M71-1021	Water	10/30/21 11:08	11/01/21 15:48
550-173411-13	CH-CCR-M72-1021	Water	10/30/21 09:54	11/01/21 15:48
550-173411-14	CH-CCR-M72-1021	Water	10/30/21 09:54	11/01/21 15:48
550-173411-15	CH-CCR-M73-1021	Water	10/30/21 12:00	11/01/21 15:48
550-173411-16	CH-CCR-M73-1021	Water	10/30/21 12:00	11/01/21 15:48
550-173411-17	CH-CCR-M74-1021	Water	10/30/21 13:00	11/01/21 15:48
550-173411-18	CH-CCR-M74-1021	Water	10/30/21 13:00	11/01/21 15:48
550-173411-19	CH-CCR-M77-1021	Water	10/28/21 13:42	11/01/21 15:48
550-173411-20	CH-CCR-M77-1021	Water	10/28/21 13:42	11/01/21 15:48
550-173411-21	CH-CCR-M78-1021	Water	10/28/21 11:18	11/01/21 15:48
550-173411-22	CH-CCR-M78-1021	Water	10/28/21 11:18	11/01/21 15:48
550-173411-23	CH-CCR-FD03-1021	Water	10/25/21 13:30	11/01/21 15:48
550-173411-24	CH-CCR-FD03-1021	Water	10/25/21 13:30	11/01/21 15:48
550-173411-25	CH-CCR-M79-1021	Water	10/25/21 13:30	11/01/21 15:48
550-173411-26	CH-CCR-M79-1021	Water	10/25/21 13:30	11/01/21 15:48
550-173411-27	CH-CCR-W301-1021	Water	10/28/21 14:32	11/01/21 15:48
550-173411-28	CH-CCR-W301-1021	Water	10/28/21 14:32	11/01/21 15:48
550-173411-29	CH-CCR-W302-1021	Water	10/30/21 11:58	11/01/21 15:48
550-173411-30	CH-CCR-W302-1021	Water	10/30/21 11:58	11/01/21 15:48
550-173411-31	CH-CCR-W303-1021	Water	10/28/21 15:20	11/01/21 15:48
550-173411-32	CH-CCR-W303-1021	Water	10/28/21 15:20	11/01/21 15:48
550-173411-33	CH-CCR-W304-1021	Water	10/28/21 10:25	11/01/21 15:48
550-173411-34	CH-CCR-W304-1021	Water	10/28/21 10:25	11/01/21 15:48
550-173411-35	CH-CCR-W305-1021	Water	10/29/21 09:28	11/01/21 15:48
550-173411-36	CH-CCR-W305-1021	Water	10/29/21 09:28	11/01/21 15:48
550-173411-37	CH-CCR-W306-1021	Water	10/29/21 10:26	11/01/21 15:48
550-173411-38	CH-CCR-W306-1021	Water	10/29/21 10:26	11/01/21 15:48
550-173411-39	CH-CCR-W307R-1021	Water	10/28/21 09:17	11/01/21 15:48
550-173411-40	CH-CCR-W307R-1021	Water	10/28/21 09:17	11/01/21 15:48
550-173411-41	CH-CCR-W308-1021	Water	10/28/21 08:13	11/01/21 15:48
550-173411-42	CH-CCR-W308-1021	Water	10/28/21 08:13	11/01/21 15:48
550-173411-43	CH-CCR-W309-1021	Water	10/27/21 14:55	11/01/21 15:48
550-173411-44	CH-CCR-W309-1021	Water	10/27/21 14:55	11/01/21 15:48
550-173411-45	CH-CCR-W314-1021	Water	10/29/21 15:30	11/01/21 15:48
550-173411-46	CH-CCR-W314-1021	Water	10/29/21 15:30	11/01/21 15:48
550-173411-47	CH-CCR-W317-1021	Water	10/21/21 15:30	11/01/21 15:48
550-173411-49	CH-CCR-FD04-1021	Water	10/28/21 09:17	11/01/21 15:48
550-173411-50	CH-CCR-FD04-1021	Water	10/28/21 09:17	11/01/21 15:48
550-173411-51	CH-CCR-BAP-1021	Water	10/31/21 11:52	11/01/21 15:48
550-173411-52	CH-CCR-BAP-1021	Water	10/31/21 11:52	11/01/21 15:48
550-173411-53	CH-CCR-BAPTD-1021	Water	10/30/21 14:40	11/01/21 15:48
550-173411-54	CH-CCR-BAPTD-1021	Water	10/30/21 14:40	11/01/21 15:48
550-173411-55	CH-CCR-Petroglyph-1021	Water	10/30/21 15:20	11/01/21 15:48
550-173411-56	CH-CCR-Petroglyph-1021	Water	10/30/21 15:20	11/01/21 15:48

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173411-57	CH-CCR-TanWash-1021	Water	10/30/21 15:52	11/01/21 15:48
550-173411-58	CH-CCR-TanWash-1021	Water	10/30/21 15:52	11/01/21 15:48
550-173411-59	CH-CCR-TWX3-1021	Water	10/31/21 08:14	11/01/21 15:48
550-173411-60	CH-CCR-TWX3-1021	Water	10/31/21 08:14	11/01/21 15:48
550-173411-61	CH-CCR-TWX4-1021	Water	10/31/21 08:32	11/01/21 15:48
550-173411-62	CH-CCR-TWX4-1021	Water	10/31/21 08:32	11/01/21 15:48
550-173411-63	CH-CCR-TWX5-1021	Water	10/31/21 08:51	11/01/21 15:48
550-173411-64	CH-CCR-TWX5-1021	Water	10/31/21 08:51	11/01/21 15:48
550-173411-65	CH-CCR-TWX6-1021	Water	10/31/21 09:10	11/01/21 15:48
550-173411-66	CH-CCR-TWX6-1021	Water	10/31/21 09:10	11/01/21 15:48
550-173411-67	CH-CCR-TWX7-1021	Water	10/31/21 09:36	11/01/21 15:48
550-173411-68	CH-CCR-TWX7-1021	Water	10/31/21 09:36	11/01/21 15:48
550-173411-69	CH-CCR-TWX8-1021	Water	10/31/21 09:52	11/01/21 15:48
550-173411-70	CH-CCR-TWX8-1021	Water	10/31/21 09:52	11/01/21 15:48
550-173411-71	CH-CCR-TWX9-1021	Water	10/31/21 10:24	11/01/21 15:48
550-173411-72	CH-CCR-TWX9-1021	Water	10/31/21 10:24	11/01/21 15:48
550-173411-73	CH-CCR-TWX10-1021	Water	10/31/21 10:41	11/01/21 15:48
550-173411-74	CH-CCR-TWX10-1021	Water	10/31/21 10:41	11/01/21 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-1021 — Lab Sample ID: 550-173411-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23	M1	0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.5		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00057	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0013	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.025	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.062	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.074	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0019	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00019	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M52-1021 — Lab Sample ID: 550-173411-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.00098		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.063		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.5	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.5	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M53-1021 — Lab Sample ID: 550-173411-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	6000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23	M1	0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	620		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.041	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.010	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0012	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0018	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00048	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.039	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0011	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00058	D1	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53-1021 (Continued)

Lab Sample ID: 550-173411-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia	0.25		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M53-1021

Lab Sample ID: 550-173411-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.037	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.0	M3	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0016		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.010		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.59	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	1.1	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.47		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.0016	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0012	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.016	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000052	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0043	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00020	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0052	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.16	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00017	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.061		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.042	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0016		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00011	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M69-1021 — Lab Sample ID: 550-173411-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.61		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00096	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.021	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00016	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.012	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.040	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0022	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000072	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.039	E4	0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M69-1021 — Lab Sample ID: 550-173411-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.23		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.019		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M70-1021 — Lab Sample ID: 550-173411-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.97	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.19		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.069	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00053	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0018	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.021	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0024	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0048	D1	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.000092	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.041	E4	0.050	0.039	mg/L	1		350.1	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M70-1021 (Continued) — Lab Sample ID: 550-173411-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M70-1021 — Lab Sample ID: 550-173411-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.065	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0011		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.021		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M71-1021 — Lab Sample ID: 550-173411-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.4		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.060	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00092	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.014	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00025	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0011	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.020	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.040	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0032	D1	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.000074	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.39		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M71-1021 — Lab Sample ID: 550-173411-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.051	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M72-1021 — Lab Sample ID: 550-173411-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	34000	D2	2000	520	mg/L	1000		300.0	Total/NA
Fluoride	0.098	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	4.2		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.50	D1	0.10	0.0051	mg/L	2		200.7 Rev 4.4	Total/NA
Calcium	8200	D2	20	0.13	mg/L	10		200.7 Rev 4.4	Total/NA
Iron	0.089	D1 E4	0.20	0.020	mg/L	2		200.7 Rev 4.4	Total/NA
Manganese	6.3	D1	0.020	0.00038	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.00068	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.015	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.21	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00039	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0023	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0082	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.025	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0069	D1	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.0013	D1	0.00040	0.000053	mg/L	4		200.8 LL	Total/NA
Ammonia	1.5		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	48000	D2	1000	1000	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M72-1021 — Lab Sample ID: 550-173411-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.095	D1 E4	0.20	0.020	mg/L	2		200.7 Rev 4.4	Dissolved
Manganese	6.2	D1	0.020	0.00038	mg/L	2		200.7 Rev 4.4	Dissolved
Arsenic	0.016	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0083	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M73-1021 — Lab Sample ID: 550-173411-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.31	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	4100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.27		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	880		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.097	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00022	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0025	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.022	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00015	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0015	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.013	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0015	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample ID: CH-CCR-M73-1021 (Continued) Lab Sample ID: 550-173411-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Molybdenum	0.031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0034	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000060	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	9900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M73-1021 Lab Sample ID: 550-173411-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.088	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0026		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.013		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M74-1021 Lab Sample ID: 550-173411-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.85	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.24		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.8		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.57		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.096		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0017	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.016	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00022	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0019	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.020	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0015	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.051	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0025	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00014	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.054		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M74-1021 Lab Sample ID: 550-173411-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.088		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M74-1021 (Continued) — Lab Sample ID: 550-173411-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M77-1021 — Lab Sample ID: 550-173411-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.32	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.50		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.73		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	580		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.65		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0018	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0091	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0013	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0046	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0053	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0039	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000050	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M77-1021 — Lab Sample ID: 550-173411-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.048	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.66		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0028		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M78-1021 — Lab Sample ID: 550-173411-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.36	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.24		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.30		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000096	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0023	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0020	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0079	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M78-1021 (Continued)

Lab Sample ID: 550-173411-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.0018	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000080	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.32		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	7400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.32		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0021		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0018		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.51	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.16		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.23		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0016	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.011	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000084	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0091	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.016	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0020	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000054	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.22		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0074		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.67		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.68		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.67		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M79-1021 — Lab Sample ID: 550-173411-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.51	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.15		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.33		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	740		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0016	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.011	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.016	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0017	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M79-1021 — Lab Sample ID: 550-173411-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0081		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.65		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.66		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.65		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-1021 — Lab Sample ID: 550-173411-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.13	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	16	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	4000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.57		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.60		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.068	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000094	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0025	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0085	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00017	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0091	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.025	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0074	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0071	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000086	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-1021 | Lab Sample ID: 550-173411-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.039	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0026		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.021		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	3.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-1021 | Lab Sample ID: 550-173411-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.72	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.58		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.10		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0017	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.015	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.050	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0064	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.013	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0022	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000026	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W302-1021 | Lab Sample ID: 550-173411-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.063	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.098		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0017		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0056		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.77		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.78		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.77		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W303-1021 | Lab Sample ID: 550-173411-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.32	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.071	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-1021 (Continued) — Lab Sample ID: 550-173411-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0018	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0034	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00061	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.010	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.059	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000026	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.040	E4	0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	10000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W303-1021 — Lab Sample ID: 550-173411-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.062	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.019		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-1021 — Lab Sample ID: 550-173411-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.16	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.39		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	600		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.19		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.98		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00098	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0070	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000046	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0038	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0070	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0040	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0023	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000046	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W304-1021 — Lab Sample ID: 550-173411-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W304-1021 (Continued) — Lab Sample ID: 550-173411-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.00090		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0060		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.82		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.84		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.82		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-1021 — Lab Sample ID: 550-173411-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.32	D1 E4 N1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.37		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000066	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0020	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.020	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0023	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.026	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0020	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.15		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W305-1021 — Lab Sample ID: 550-173411-36

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	6.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0014		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-1021 — Lab Sample ID: 550-173411-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.84	D1 N1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.77		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.95		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	430		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.081	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.035		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W306-1021 (Continued) — Lab Sample ID: 550-173411-37

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00020	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0050	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00021	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00067	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.051	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0031	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000032	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	17000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W306-1021 — Lab Sample ID: 550-173411-38

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.083	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.041		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0050		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0014		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307R-1021 — Lab Sample ID: 550-173411-39

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.56	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.33		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00015	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0017	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.028	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00071	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.011	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.072	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0010	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.027	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0021	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000044	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.058		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	8400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W307R-1021 — Lab Sample ID: 550-173411-40

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.22		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0019		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.055		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-1021 — Lab Sample ID: 550-173411-41

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.54	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.41		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.38		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000076	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0077		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000040	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0086		0.0050	0.0022	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0021		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0026		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00013		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W308-1021 — Lab Sample ID: 550-173411-42

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.18		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.38		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0019		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0021		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-1021 — Lab Sample ID: 550-173411-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	2.8	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.33		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.46		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W309-1021 (Continued) Lab Sample ID: 550-173411-43

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Calcium	460		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.059	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.41		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000065	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0067		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000059	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.015		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00022	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0083		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.20		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000094	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W309-1021 Lab Sample ID: 550-173411-44

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.41		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0020		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00020	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	0.83		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.82		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.83		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-1021 Lab Sample ID: 550-173411-45

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.30		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.3	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.073	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.093		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000067	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0013		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00043		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.071		0.0020	0.00087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.030		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00088		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.016		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00076		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000021	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	6800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1021 — Lab Sample ID: 550-173411-46

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.094		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0017		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.028		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W317-1021 — Lab Sample ID: 550-173411-47

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.34	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	750	D2	400	85	mg/L	200		300.0	Total/NA
Boron	0.20		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350	M3	2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000070	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0052		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.031		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0046		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00018	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00063		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00040		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	3600	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-1021 — Lab Sample ID: 550-173411-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.55	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.32		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00015	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.022		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00054		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0092	B1	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.062		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00090		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.022		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000054	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-1021 (Continued) — Lab Sample ID: 550-173411-49

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	12.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-1021 — Lab Sample ID: 550-173411-50

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.22		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.056		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAP-1021 — Lab Sample ID: 550-173411-51

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.2	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.93		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.13		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	27		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1400	D2	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.0023		0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.026		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.29		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000069	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0037		0.0020	0.00087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0014		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0010		0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.035		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0072		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000073	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	8.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.0	D1	1.0	0.52	mg/L	2		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAP-1021 — Lab Sample ID: 550-173411-52

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.054	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.12		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00091		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample ID: CH-CCR-BAP-1021 (Continued) — Lab Sample ID: 550-173411-52

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Duplicate	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-BAPTD-1021 — Lab Sample ID: 550-173411-53

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.7	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1900	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000090	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0016	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.011	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00064	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.00099	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.010	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00080	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0015		0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.056		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-BAPTD-1021 — Lab Sample ID: 550-173411-54

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.18		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0021		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0096		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-Petroglyph-1021 — Lab Sample ID: 550-173411-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.20	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-Petroglyph-1021 (Continued) — Lab Sample ID: 550-173411-55

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.19		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.059	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00052	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0026	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0058	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00018	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0033		0.0020	0.00087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.019	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.028	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0016		0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000056	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.061		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	74		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	74		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1	N1	0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-Petroglyph-1021 — Lab Sample ID: 550-173411-56

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.051	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0035		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TanWash-1021 — Lab Sample ID: 550-173411-57

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.0	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.9		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	16		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00021	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0025	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TanWash-1021 (Continued)

Lab Sample ID: 550-173411-57

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.0073	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00036	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.015		0.0013	0.00054	mg/L	1		200.8 LL	Total/NA
Cobalt	0.016	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0054	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.067	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0012		0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000030	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.15		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-58

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.36		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0019		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.014		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX3-1021

Lab Sample ID: 550-173411-59

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.8	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.5	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	13		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0017	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0090	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00052	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.011		0.0020	0.00087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0050	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.049	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027		0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000092	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Ammonia	0.15		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	73		6.0	6.0	mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TWX3-1021 (Continued) — Lab Sample ID: 550-173411-59

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	73		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX3-1021 — Lab Sample ID: 550-173411-60

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.071	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0024		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.015		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX4-1021 — Lab Sample ID: 550-173411-61

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.0		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	6.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00038	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0023	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0095	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00031	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.51		0.0050	0.0022	mg/L	1		200.8 LL	Total/NA
Cobalt	0.017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0020	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.11	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0044		0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.00044	D1	0.00040	0.000053	mg/L	4		200.8 LL	Total/NA
Ammonia	0.44		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX4-1021 — Lab Sample ID: 550-173411-62

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.090	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0095		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX5-1021 — Lab Sample ID: 550-173411-63

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.8	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.42		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0037	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00044	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.026		0.0013	0.00054	mg/L	1		200.8 LL	Total/NA
Cobalt	0.016	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0040	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.042	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0023		0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.00010	D1 E4	0.00040	0.000053	mg/L	4		200.8 LL	Total/NA
Ammonia	0.42		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	71		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	71		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX5-1021 — Lab Sample ID: 550-173411-64

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.14		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0023		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.014		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-TWX6-1021 — Lab Sample ID: 550-173411-65

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.3	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.26		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	10		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00048	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0042	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0087	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00065	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.037	B1	0.0040	0.0017	mg/L	4		200.8 LL	Total/NA
Cobalt	0.018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00090	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.063	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0015	E4	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Ammonia	0.17		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	68		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	68		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX6-1021 — Lab Sample ID: 550-173411-66

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.060	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0033		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.016		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX7-1021 — Lab Sample ID: 550-173411-67

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.8	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	670		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.9		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	9.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TWX7-1021 (Continued)

Lab Sample ID: 550-173411-67

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00031	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0072	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.020	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0024	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.99		0.0020	0.00087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.013	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0053	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.20	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0018	E4	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.00010	D1 E4	0.00040	0.000053	mg/L	4		200.8 LL	Total/NA
Ammonia	0.054		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	76		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	76		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	10.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-68

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.9		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0032		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0039		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX8-1021

Lab Sample ID: 550-173411-69

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	6300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	650		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.050	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	12		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0017	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0069	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00065	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0096		0.0050	0.0022	mg/L	1		200.8 LL	Total/NA
Cobalt	0.019	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.045	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0023		0.0020	0.00030	mg/L	4		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-TWX8-1021 (Continued) — Lab Sample ID: 550-173411-69

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	95		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	95		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6300	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX8-1021 — Lab Sample ID: 550-173411-70

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.035	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0018		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.017		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX9-1021 — Lab Sample ID: 550-173411-71

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.23		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.8	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.81		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	17		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00092	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0019	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0046	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00075	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	1.5		0.020	0.0087	mg/L	1		200.8 LL	Total/NA
Cobalt	0.012	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0020	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.084	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0033		0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.000096	D1 E4	0.00040	0.000053	mg/L	4		200.8 LL	Total/NA
Ammonia	0.17		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	90		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	90		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-1021 Lab Sample ID: 550-173411-72

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0020		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0073		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-TWX10-1021 Lab Sample ID: 550-173411-73

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	9400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.62	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	7000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.62		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.61	B7	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.2		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00044	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0019	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.023	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00026	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.041		0.0050	0.0022	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0039	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0027	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.10	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0031		0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Ammonia	0.39		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-TWX10-1021 Lab Sample ID: 550-173411-74

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.93		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0034		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0018		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M52-1021

Lab Sample ID: 550-173411-1
Date Collected: 10/29/21 11:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4200**	**D2**	400	100	mg/L			11/03/21 01:54	200
Fluoride	**1.3**	**D1**	0.80	0.095	mg/L			11/02/21 23:12	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 14:52	5
Sulfate	**5800**	**D2**	400	85	mg/L			11/03/21 01:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:15	1
Lithium	**0.23**	**M1**	0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 02:35	1
Boron	**3.0**		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 17:53	1
Calcium	**650**		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 17:53	1
Iron	**2.5**		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:15	1
Manganese	**1.8**		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:15	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:14	2
Arsenic	**0.00057**	**D1 E4**	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:18	2
Barium	**0.013**	**D1**	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:14	2
Cadmium	**0.0013**	**D1**	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:14	2
Chromium	**0.025**	**D1**	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:14	2
Cobalt	**0.062**	**D1**	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:14	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:14	2
Molybdenum	**0.074**	**D1**	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:14	2
Selenium	**0.0019**	**D1**	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:22	2
Thallium	**0.00019**	**D1 E4**	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:18	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 06:38	1
Total Dissolved Solids	**7000**	**D2**	100	100	mg/L			11/02/21 06:30	1
pH	**7.3**	**H5**	1.7	1.7	SU			11/09/21 14:02	1
Temperature	**9.4**	**H5**	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M52-1021

Lab Sample ID: 550-173411-2
Date Collected: 10/29/21 11:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.0**		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:44	1
Manganese	**1.9**		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:44	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.00098**		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:09	1
Cobalt	**0.063**		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:09	1

Client Sample ID: CH-CCR-M52-1021
Lab Sample ID: 550-173411-2
Date Collected: 10/29/21 11:28
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.5	M2	0.50	0.26	mg/L			11/10/21 15:01	1
Dissolved Organic Carbon - Duplicate	1.5	M2	0.50	0.26	mg/L			11/10/21 15:01	1
Dissolved Organic Carbon - Quad	1.5	M2	0.50	0.26	mg/L			11/10/21 15:01	1

Client Sample ID: CH-CCR-M53-1021
Lab Sample ID: 550-173411-3
Date Collected: 10/28/21 16:18
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3700	D2	400	100	mg/L			11/03/21 02:22	200
Fluoride	2.1	D1	0.80	0.095	mg/L			11/02/21 23:31	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 16:16	5
Sulfate	6000	D2	400	85	mg/L			11/03/21 02:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:17	1
Lithium	0.23	M1	0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 02:51	1
Boron	3.6		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 17:55	1
Calcium	620		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 17:55	1
Iron	0.041	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:17	1
Manganese	4.9		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:17	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:12	2
Arsenic	0.0013	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:16	2
Barium	0.010	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:12	2
Cadmium	0.0012	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:12	2
Chromium	0.0018	D1 E4	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:12	2
Cobalt	0.012	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:12	2
Lead	0.00048	D1 E4	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:12	2
Molybdenum	0.039	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:12	2
Selenium	0.0011	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/12/21 13:45	2
Thallium	0.00058	D1	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:16	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.25		0.050	0.039	mg/L			11/09/21 06:44	1
Total Dissolved Solids	7000	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.5	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53-1021
Lab Sample ID: 550-173411-4
Date Collected: 10/28/21 16:18
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.037	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:42	1
Manganese	5.0	M3	0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:42	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:11	1
Cobalt	0.010		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:11	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2	M2	0.50	0.26	mg/L			11/11/21 17:37	1
Dissolved Organic Carbon - Duplicate	1.2	M2	0.50	0.26	mg/L			11/11/21 17:37	1
Dissolved Organic Carbon - Quad	1.2	M2	0.50	0.26	mg/L			11/11/21 17:37	1

Client Sample ID: CH-CCR-M55-1021
Lab Sample ID: 550-173411-5
Date Collected: 10/27/21 15:47
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4100	D2	400	100	mg/L			11/03/21 02:50	200
Fluoride	0.59	D1 E4	0.80	0.095	mg/L			11/02/21 23:49	2
Nitrate Nitrite as N	1.1	D1	0.25	0.11	mg/L			11/06/21 16:44	5
Sulfate	3400	D2	400	85	mg/L			11/03/21 02:50	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:20	1
Lithium	0.47		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:19	1
Boron	0.41		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 17:58	1
Calcium	700		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 17:58	1
Iron	0.23		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:20	1
Manganese	0.0016	E4	0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:20	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:16	2
Arsenic	0.0012	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:20	2
Barium	0.016	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:16	2
Cadmium	0.000052	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:16	2
Chromium	0.0043	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:16	2
Cobalt	0.00020	D1 E4	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:16	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:16	2
Molybdenum	0.0052	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:16	2
Selenium	0.16	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:25	2
Thallium	0.00017	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:20	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:43	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-5
Date Collected: 10/27/21 15:47
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.061		0.050	0.039	mg/L			11/09/21 06:46	1
Total Dissolved Solids	11000	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	10.3	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-6
Date Collected: 10/27/21 15:47
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.042	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:47	1
Manganese	ND	E8	0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:47	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:13	1
Cobalt	0.00011	E4	0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:13	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.7		0.50	0.26	mg/L			11/10/21 15:46	1
Dissolved Organic Carbon - Duplicate	2.7		0.50	0.26	mg/L			11/10/21 15:46	1
Dissolved Organic Carbon - Quad	2.7		0.50	0.26	mg/L			11/10/21 15:46	1

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-7
Date Collected: 10/29/21 12:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3100	D2	400	100	mg/L			11/03/21 03:18	200
Fluoride	1.1	D1	0.80	0.095	mg/L			11/03/21 00:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 17:12	5
Sulfate	4300	D2	400	85	mg/L			11/03/21 03:18	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:28	1
Lithium	0.20		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:23	1
Boron	3.2		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:01	1
Calcium	670		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:01	1
Iron	0.61		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:28	1
Manganese	4.2		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:28	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:19	2
Arsenic	0.00096	D1 E4	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:22	2
Barium	0.021	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:19	2
Cadmium	0.00016	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:19	2

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-7
Matrix: Water

Date Collected: 10/29/21 12:28
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.012	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:19	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:19	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:19	2
Molybdenum	0.040	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:19	2
Selenium	0.0022	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:27	2
Thallium	0.000072	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:22	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.039	E4	0.050	0.039	mg/L			11/09/21 06:47	1
Total Dissolved Solids	7100	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	8.8	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-8
Matrix: Water

Date Collected: 10/29/21 12:28
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.23		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:50	1
Manganese	4.2		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:50	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:15	1
Cobalt	0.019		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:15	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L			11/10/21 15:57	1
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L			11/10/21 15:57	1
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L			11/10/21 15:57	1

Client Sample ID: CH-CCR-M70-1021

Lab Sample ID: 550-173411-9
Matrix: Water

Date Collected: 10/29/21 14:28
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4600	D2	400	100	mg/L			11/02/21 23:48	200
Fluoride	0.97	D1	0.80	0.095	mg/L			11/03/21 00:26	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 17:39	5
Sulfate	5900	D2	400	85	mg/L			11/02/21 23:48	200

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-1021
Lab Sample ID: 550-173411-9
Date Collected: 10/29/21 14:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:30	1
Lithium	0.19		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:27	1
Boron	2.2		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:03	1
Calcium	650		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:03	1
Iron	0.069	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:30	1
Manganese	1.7		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:30	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:21	2
Arsenic	ND	D1 E8	0.0020	0.00099	mg/L		11/02/21 08:35	11/15/21 15:29	4
Barium	0.012	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:21	2
Cadmium	0.00053	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:21	2
Chromium	0.0018	D1 E4	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:21	2
Cobalt	0.021	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:21	2
Lead	0.0024	D1	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:21	2
Molybdenum	0.034	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:21	2
Selenium	0.0048	D1	0.0020	0.00030	mg/L		11/02/21 08:35	11/15/21 15:29	4
Thallium	0.000092	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:24	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.041	E4	0.050	0.039	mg/L			11/09/21 06:49	1
Total Dissolved Solids	7000	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	8.7	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M70-1021
Lab Sample ID: 550-173411-10
Date Collected: 10/29/21 14:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.065	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:52	1
Manganese	1.7		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:52	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0011		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:17	1
Cobalt	0.021		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:17	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			11/10/21 16:10	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			11/10/21 16:10	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			11/10/21 16:10	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M71-1021

Lab Sample ID: 550-173411-11

Date Collected: 10/30/21 11:08
Date Received: 11/01/21 15:48

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**	**D2**	400	100	mg/L			11/03/21 00:16	200
Fluoride	**3.0**	**D1**	0.80	0.095	mg/L			11/03/21 00:44	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 18:07	5
Sulfate	**3900**	**D2**	400	85	mg/L			11/03/21 00:16	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:33	1
Lithium	**0.20**		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:31	1
Boron	**3.4**		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:06	1
Calcium	**690**		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:06	1
Iron	**0.060**	**E4**	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:33	1
Manganese	**5.4**		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:33	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:23	2
Arsenic	**0.00092**	**D1 E4**	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:26	2
Barium	**0.014**	**D1**	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:23	2
Cadmium	**0.00025**	**D1**	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:23	2
Chromium	**0.0011**	**D1 E4**	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:23	2
Cobalt	**0.020**	**D1**	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:23	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:23	2
Molybdenum	**0.040**	**D1**	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:23	2
Selenium	**0.0032**	**D1**	0.0020	0.00030	mg/L		11/02/21 08:35	11/15/21 15:31	4
Thallium	**0.000074**	**D1 E4**	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:26	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:49	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.39**		0.050	0.039	mg/L			11/09/21 06:50	1
Total Dissolved Solids	**7300**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.6**	**H5**	1.7	1.7	SU			11/09/21 14:02	1
Temperature	**8.5**	**H5**	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M71-1021

Lab Sample ID: 550-173411-12

Date Collected: 10/30/21 11:08
Date Received: 11/01/21 15:48

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.051**	**E4**	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:55	1
Manganese	**5.3**		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:55	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0013**		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:20	1
Cobalt	**0.017**		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:20	1

Client Sample ID: CH-CCR-M71-1021

Lab Sample ID: 550-173411-12

Date Collected: 10/30/21 11:08

Matrix: Water

Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			11/10/21 16:23	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			11/10/21 16:23	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			11/10/21 16:23	1

Client Sample ID: CH-CCR-M72-1021

Lab Sample ID: 550-173411-13

Date Collected: 10/30/21 09:54

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	34000	D2	2000	520	mg/L			11/04/21 08:11	1000
Fluoride	0.098	D1 E4	0.80	0.095	mg/L			11/03/21 01:03	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 18:35	5
Sulfate	2200	D2	400	85	mg/L			11/03/21 00:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	D1 E8	0.0020	0.00013	mg/L		11/02/21 06:47	11/04/21 18:08	2
Lithium	4.2		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:35	1
Boron	0.50	D1	0.10	0.0051	mg/L		11/02/21 06:47	11/04/21 18:08	2
Calcium	8200	D2	20	0.13	mg/L		11/02/21 06:47	11/05/21 15:43	10
Iron	0.089	D1 E4	0.20	0.020	mg/L		11/02/21 06:47	11/04/21 18:08	2
Manganese	6.3	D1	0.020	0.00038	mg/L		11/02/21 06:47	11/04/21 18:08	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00068	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:25	2
Arsenic	0.015	D1	0.0020	0.00099	mg/L		11/02/21 08:35	11/15/21 15:33	4
Barium	0.21	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:25	2
Cadmium	0.00039	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:25	2
Chromium	0.0023	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:25	2
Cobalt	0.0082	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:25	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:25	2
Molybdenum	0.025	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:25	2
Selenium	0.0069	D1	0.0020	0.00030	mg/L		11/02/21 08:35	11/15/21 15:33	4
Thallium	0.0013	D1	0.00040	0.000053	mg/L		11/02/21 08:35	11/15/21 15:33	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/04/21 15:49	11/04/21 18:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.5		0.050	0.039	mg/L			11/09/21 06:52	1
Total Dissolved Solids	48000	D2	1000	1000	mg/L			11/02/21 06:33	1
pH	7.1	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.1	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M72-1021
Lab Sample ID: 550-173411-14
Date Collected: 10/30/21 09:54
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.095	D1 E4	0.20	0.020	mg/L		11/02/21 11:04	11/04/21 15:10	2
Manganese	6.2	D1	0.020	0.00038	mg/L		11/02/21 11:04	11/04/21 15:10	2

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.016	D1	0.0010	0.00049	mg/L		11/02/21 09:40	11/09/21 09:20	2
Cobalt	0.0083	D1	0.0010	0.00013	mg/L		11/02/21 09:40	11/04/21 18:26	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L			11/10/21 16:37	1
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L			11/10/21 16:37	1
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L			11/10/21 16:37	1

Client Sample ID: CH-CCR-M73-1021
Lab Sample ID: 550-173411-15
Date Collected: 10/30/21 12:00
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4200	D2	400	100	mg/L			11/03/21 07:11	200
Fluoride	3.7	D1	0.80	0.095	mg/L			11/03/21 01:58	2
Nitrate Nitrite as N	0.31	D1	0.25	0.11	mg/L			11/06/21 20:27	5
Sulfate	4100	D2	400	85	mg/L			11/03/21 07:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:38	1
Lithium	0.27		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:39	1
Boron	4.5		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:11	1
Calcium	880		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:11	1
Iron	0.097	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:38	1
Manganese	3.3		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:38	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00022	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:27	2
Arsenic	0.0025	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:30	2
Barium	0.022	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:27	2
Cadmium	0.00015	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:27	2
Chromium	0.0015	D1 E4	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:27	2
Cobalt	0.013	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:27	2
Lead	0.0015	D1	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:27	2
Molybdenum	0.031	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:27	2
Selenium	0.0034	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:35	2
Thallium	0.000060	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:30	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:51	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M73-1021

Lab Sample ID: 550-173411-15
Matrix: Water

Date Collected: 10/30/21 12:00
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.13		0.050	0.039	mg/L			11/09/21 06:53	1
Total Dissolved Solids	9900	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.9	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M73-1021

Lab Sample ID: 550-173411-16
Matrix: Water

Date Collected: 10/30/21 12:00
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.088	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:00	1
Manganese	3.2		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:00	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0026		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:24	1
Cobalt	0.013		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:24	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			11/10/21 16:49	1
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L			11/10/21 16:49	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			11/10/21 16:49	1

Client Sample ID: CH-CCR-M74-1021

Lab Sample ID: 550-173411-17
Matrix: Water

Date Collected: 10/30/21 13:00
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			11/03/21 07:29	200
Fluoride	0.85	D1	0.80	0.095	mg/L			11/03/21 02:16	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 20:55	5
Sulfate	2800	D2	400	85	mg/L			11/03/21 07:29	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:41	1
Lithium	0.24		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:43	1
Boron	1.8		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:13	1
Calcium	710		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:13	1
Iron	0.57		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:41	1
Manganese	0.096		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:41	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:29	2
Arsenic	0.0017	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:32	2
Barium	0.016	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:29	2
Cadmium	0.00022	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:29	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M74-1021

Lab Sample ID: 550-173411-17
Date Collected: 10/30/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0019	D1 E4	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:29	2
Cobalt	0.020	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:29	2
Lead	0.0015	D1	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:29	2
Molybdenum	0.051	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:29	2
Selenium	0.0025	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:37	2
Thallium	0.00014	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:32	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.054		0.050	0.039	mg/L			11/09/21 06:55	1
Total Dissolved Solids	6600	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.9	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M74-1021

Lab Sample ID: 550-173411-18
Date Collected: 10/30/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.10		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:03	1
Manganese	0.088		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:03	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:26	1
Cobalt	0.017		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L			11/10/21 17:00	1
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L			11/10/21 17:00	1
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L			11/10/21 17:00	1

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-19
Date Collected: 10/28/21 13:42
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3900	D2	400	100	mg/L			11/03/21 07:48	200
Fluoride	0.32	D1 E4	0.80	0.095	mg/L			11/03/21 02:35	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 21:23	5
Sulfate	5000	D2	400	85	mg/L			11/03/21 07:48	200

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-19
Date Collected: 10/28/21 13:42
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:43	1
Lithium	0.50		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:47	1
Boron	0.73		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:16	1
Calcium	580		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:16	1
Iron	0.040	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:43	1
Manganese	0.65		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:43	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:31	2
Arsenic	0.0018	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:34	2
Barium	0.0091	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:31	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:31	2
Chromium	0.0013	D1 E4	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:31	2
Cobalt	0.0046	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:31	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:31	2
Molybdenum	0.0053	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:31	2
Selenium	0.0039	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:39	2
Thallium	0.000050	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:34	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:05	1
Total Dissolved Solids	11000	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.0	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-20
Date Collected: 10/28/21 13:42
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.048	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:05	1
Manganese	0.66		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:05	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0028		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:28	1
Cobalt	0.0042		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:28	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			11/10/21 17:13	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			11/10/21 17:13	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			11/10/21 17:13	1

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-21
Date Collected: 10/28/21 11:18
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3000	D2	400	100	mg/L			11/03/21 08:06	200
Fluoride	0.36	D1 E4	0.80	0.095	mg/L			11/03/21 02:53	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 21:51	5
Sulfate	2600	D2	400	85	mg/L			11/03/21 08:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:46	1
Lithium	0.24		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 03:51	1
Boron	0.41		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:24	1
Calcium	710		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:24	1
Iron	0.30		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:46	1
Manganese	5.6		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:46	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000096	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:37	2
Arsenic	0.0023	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:41	2
Barium	0.013	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:37	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:37	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:37	2
Cobalt	0.0020	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:37	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:37	2
Molybdenum	0.0079	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:37	2
Selenium	0.0018	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:47	2
Thallium	0.000080	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:41	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.32		0.050	0.039	mg/L			11/09/21 07:10	1
Total Dissolved Solids	7400	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.9	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-22
Date Collected: 10/28/21 11:18
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.32		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:13	1
Manganese	5.7		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:34	1
Cobalt	0.0018		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:34	1

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-22
Date Collected: 10/28/21 11:18
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.68		0.50	0.26	mg/L			11/10/21 17:50	1
Dissolved Organic Carbon - Duplicate	0.68		0.50	0.26	mg/L			11/10/21 17:50	1
Dissolved Organic Carbon - Quad	0.68		0.50	0.26	mg/L			11/10/21 17:50	1

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-23
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			11/03/21 08:24	200
Fluoride	0.51	D1 E4	0.80	0.095	mg/L			11/03/21 03:12	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 22:19	5
Sulfate	2500	D2	400	85	mg/L			11/03/21 08:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:48	1
Lithium	0.16		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:12	1
Boron	0.33		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:26	1
Calcium	750		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:26	1
Iron	0.23		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:48	1
Manganese	3.9		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:48	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000092	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:39	2
Arsenic	0.0016	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:43	2
Barium	0.011	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:39	2
Cadmium	0.000084	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:39	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:39	2
Cobalt	0.0091	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:39	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:39	2
Molybdenum	0.016	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:39	2
Selenium	0.0020	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:49	2
Thallium	0.000054	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:43	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:11	1
Total Dissolved Solids	7300	D2	100	100	mg/L			11/10/21 06:13	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	10.1	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-24

Date Collected: 10/25/21 13:30
Date Received: 11/01/21 15:48
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.22		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:15	1
Manganese	3.9		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:15	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:36	1
Cobalt	0.0074		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:36	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.67		0.50	0.26	mg/L			11/10/21 18:00	1
Dissolved Organic Carbon - Duplicate	0.68		0.50	0.26	mg/L			11/10/21 18:00	1
Dissolved Organic Carbon - Quad	0.67		0.50	0.26	mg/L			11/10/21 18:00	1

Client Sample ID: CH-CCR-M79-1021

Lab Sample ID: 550-173411-25

Date Collected: 10/25/21 13:30
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			11/03/21 08:43	200
Fluoride	0.51	D1 E4	0.80	0.095	mg/L			11/03/21 03:30	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 22:47	5
Sulfate	2600	D2	400	85	mg/L			11/03/21 08:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:51	1
Lithium	0.15		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:16	1
Boron	0.33		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:29	1
Calcium	740		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:29	1
Iron	0.24		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:51	1
Manganese	3.8		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:51	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:42	2
Arsenic	0.0016	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:45	2
Barium	0.012	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:42	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:42	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:42	2
Cobalt	0.011	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:42	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:42	2
Molybdenum	0.016	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:42	2
Selenium	0.0017	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:51	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:05	1

Client Sample ID: CH-CCR-M79-1021

Lab Sample ID: 550-173411-25
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:13	1
Total Dissolved Solids	6900	D2	100	100	mg/L			11/10/21 06:13	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.8	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-M79-1021

Lab Sample ID: 550-173411-26
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.24		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:18	1
Manganese	3.8		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:18	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0014		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:38	1
Cobalt	0.0081		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.65		0.50	0.26	mg/L			11/10/21 18:13	1
Dissolved Organic Carbon - Duplicate	0.66		0.50	0.26	mg/L			11/10/21 18:13	1
Dissolved Organic Carbon - Quad	0.65		0.50	0.26	mg/L			11/10/21 18:13	1

Client Sample ID: CH-CCR-W301-1021

Lab Sample ID: 550-173411-27
Date Collected: 10/28/21 14:32
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6400	D2	400	100	mg/L			11/03/21 09:01	200
Fluoride	0.13	D1 E4	0.80	0.095	mg/L			11/03/21 03:48	2
Nitrate Nitrite as N	16	D1	0.25	0.11	mg/L			11/06/21 23:15	5
Sulfate	4000	D2	400	85	mg/L			11/03/21 09:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:59	1
Lithium	0.57		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:20	1
Boron	0.60		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:32	1
Calcium	770		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:32	1
Iron	0.068	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:59	1
Manganese	1.5		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:59	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000094	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:44	2
Arsenic	0.0025	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:47	2
Barium	0.0085	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:44	2
Cadmium	0.00017	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:44	2

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W301-1021

Lab Sample ID: 550-173411-27

Date Collected: 10/28/21 14:32

Matrix: Water

Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.0091	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:44	2
Cobalt	0.025	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:44	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:44	2
Molybdenum	0.0074	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:44	2
Selenium	0.0071	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:54	2
Thallium	0.000086	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:47	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:07	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:14	1
Total Dissolved Solids	14000	D2	200	200	mg/L			11/02/21 06:30	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.8	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W301-1021

Lab Sample ID: 550-173411-28

Date Collected: 10/28/21 14:32

Matrix: Water

Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.039	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:21	1
Manganese	1.5		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:21	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0026		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:40	1
Cobalt	0.021		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:40	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.0		0.50	0.26	mg/L			11/10/21 18:25	1
Dissolved Organic Carbon - Duplicate	3.0		0.50	0.26	mg/L			11/10/21 18:25	1
Dissolved Organic Carbon - Quad	3.0		0.50	0.26	mg/L			11/10/21 18:25	1

Client Sample ID: CH-CCR-W302-1021

Lab Sample ID: 550-173411-29

Date Collected: 10/30/21 11:58

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3500	D2	400	100	mg/L			11/03/21 09:57	200
Fluoride	0.72	D1 E4	0.80	0.095	mg/L			11/03/21 04:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/06/21 23:43	5
Sulfate	2400	D2	400	85	mg/L			11/03/21 09:57	200

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1021

Lab Sample ID: 550-173411-29
Date Collected: 10/30/21 11:58
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:01	1
Lithium	0.39		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:24	1
Boron	0.58		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:34	1
Calcium	690		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:34	1
Iron	0.16		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:01	1
Manganese	0.10		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:01	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:46	2
Arsenic	0.0017	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:49	2
Barium	0.015	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:46	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:46	2
Chromium	0.050	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:46	2
Cobalt	0.0064	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:46	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:46	2
Molybdenum	0.013	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:46	2
Selenium	0.0022	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:56	2
Thallium	0.000026	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:49	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:09	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:16	1
Total Dissolved Solids	7300	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	9.5	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W302-1021

Lab Sample ID: 550-173411-30
Date Collected: 10/30/21 11:58
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.063	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:23	1
Manganese	0.098		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:23	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:42	1
Cobalt	0.0056		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:42	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.77		0.50	0.26	mg/L			11/10/21 18:36	1
Dissolved Organic Carbon - Duplicate	0.78		0.50	0.26	mg/L			11/10/21 18:36	1
Dissolved Organic Carbon - Quad	0.77		0.50	0.26	mg/L			11/10/21 18:36	1

Client Sample ID: CH-CCR-W303-1021

Lab Sample ID: 550-173411-31

Date Collected: 10/28/21 15:20

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3200**	**D2**	400	100	mg/L			11/03/21 10:15	200
Fluoride	**0.32**	**D1 E4**	0.80	0.095	mg/L			11/03/21 04:25	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/07/21 00:11	5
Sulfate	**4000**	**D2**	400	85	mg/L			11/03/21 10:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:04	1
Lithium	**0.39**		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:28	1
Boron	**3.5**		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:37	1
Calcium	**690**		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:37	1
Iron	**0.071**	**E4**	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:04	1
Manganese	**3.0**		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:04	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:48	2
Arsenic	**0.0018**	**D1**	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:51	2
Barium	**0.0034**	**D1**	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:48	2
Cadmium	**0.00061**	**D1**	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:48	2
Chromium	**0.010**	**D1**	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:48	2
Cobalt	**0.022**	**D1**	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:48	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:48	2
Molybdenum	**0.059**	**D1**	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:48	2
Selenium	**0.0027**	**D1**	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 15:58	2
Thallium	**0.000026**	**D1 E4**	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:51	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.040**	**E4**	0.050	0.039	mg/L			11/09/21 07:17	1
Total Dissolved Solids	**10000**	**D2**	100	100	mg/L			11/02/21 06:30	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/09/21 14:02	1
Temperature	**10.1**	**H5**	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W303-1021

Lab Sample ID: 550-173411-32

Date Collected: 10/28/21 15:20

Matrix: Water

Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.062**	**E4**	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:26	1
Manganese	**3.1**		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:26	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0018**		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:45	1
Cobalt	**0.019**		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:45	1

Client Sample ID: CH-CCR-W303-1021
Lab Sample ID: 550-173411-32
Date Collected: 10/28/21 15:20
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L			11/10/21 18:48	1
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L			11/10/21 18:48	1
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L			11/10/21 18:48	1

Client Sample ID: CH-CCR-W304-1021
Lab Sample ID: 550-173411-33
Date Collected: 10/28/21 10:25
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	400	100	mg/L			11/03/21 10:33	200
Fluoride	0.16	D1 E4	0.80	0.095	mg/L			11/03/21 04:44	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 14:35	5
Sulfate	2800	D2	400	85	mg/L			11/03/21 10:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:06	1
Lithium	0.39		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:32	1
Boron	0.42		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:39	1
Calcium	600		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:39	1
Iron	0.19		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:06	1
Manganese	0.98		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:50	2
Arsenic	0.00098	D1 E4	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:53	2
Barium	0.0070	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:50	2
Cadmium	0.000046	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:50	2
Chromium	0.0038	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:50	2
Cobalt	0.0070	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:50	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:50	2
Molybdenum	0.0040	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:50	2
Selenium	0.0023	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 16:00	2
Thallium	0.000046	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:53	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:19	1
Total Dissolved Solids	6900	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.1	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1021

Lab Sample ID: 550-173411-34
Date Collected: 10/28/21 10:25
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.11		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:28	1
Manganese	1.0		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:28	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.00090		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:47	1
Cobalt	0.0060		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:47	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.82		0.50	0.26	mg/L			11/10/21 19:01	1
Dissolved Organic Carbon - Duplicate	0.84		0.50	0.26	mg/L			11/10/21 19:01	1
Dissolved Organic Carbon - Quad	0.82		0.50	0.26	mg/L			11/10/21 19:01	1

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-35
Date Collected: 10/29/21 09:28
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	400	100	mg/L			11/03/21 11:10	200
Fluoride	0.32	D1 E4 N1	0.80	0.095	mg/L			11/03/21 10:52	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 15:59	5
Sulfate	2700	D2	400	85	mg/L			11/03/21 11:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:09	1
Lithium	0.22		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:36	1
Boron	0.37		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:42	1
Calcium	690		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:42	1
Iron	0.24		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:09	1
Manganese	6.7		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:09	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:52	2
Arsenic	0.0014	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:55	2
Barium	0.012	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:52	2
Cadmium	0.000066	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:52	2
Chromium	0.0020	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:52	2
Cobalt	0.020	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:52	2
Lead	0.0023	D1	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:52	2
Molybdenum	0.026	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:52	2
Selenium	0.0020	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 16:02	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:55	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:15	1

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-35
Date Collected: 10/29/21 09:28
Date Received: 11/01/21 15:48
Matrix: Water

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.15		0.050	0.039	mg/L			11/09/21 07:20	1
Total Dissolved Solids	6600	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.3	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-36
Date Collected: 10/29/21 09:28
Date Received: 11/01/21 15:48
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.24		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:31	1
Manganese	6.6		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:31	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0014		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:49	1
Cobalt	0.016		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:49	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.8		0.50	0.26	mg/L			11/10/21 19:13	1
Dissolved Organic Carbon - Duplicate	1.8		0.50	0.26	mg/L			11/10/21 19:13	1
Dissolved Organic Carbon - Quad	1.8		0.50	0.26	mg/L			11/10/21 19:13	1

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-37
Date Collected: 10/29/21 10:26
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			11/03/21 11:47	200
Fluoride	0.84	D1 N1	0.80	0.095	mg/L			11/03/21 11:29	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 16:27	5
Sulfate	12000	D2	400	85	mg/L			11/03/21 11:47	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:12	1
Lithium	0.77		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:40	1
Boron	0.95		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:45	1
Calcium	430		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:45	1
Iron	0.081	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:12	1
Manganese	0.035		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:12	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00020	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:54	2
Arsenic	0.0050	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:57	2
Barium	0.012	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:54	2
Cadmium	0.00021	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:54	2

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-37

Date Collected: 10/29/21 10:26
Date Received: 11/01/21 15:48
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:54	2
Cobalt	0.0018	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:54	2
Lead	0.00067	D1 E4	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:54	2
Molybdenum	0.051	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:54	2
Selenium	0.0031	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 16:04	2
Thallium	0.000032	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:57	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 20:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:22	1
Total Dissolved Solids	17000	D2	200	200	mg/L			11/02/21 06:30	1
pH	7.9	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.5	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-38

Date Collected: 10/29/21 10:26
Date Received: 11/01/21 15:48
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.083	E4	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:33	1
Manganese	0.041		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:33	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0050		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:51	1
Cobalt	0.0014		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:51	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.6		0.50	0.26	mg/L			11/10/21 19:27	1
Dissolved Organic Carbon - Duplicate	2.6		0.50	0.26	mg/L			11/10/21 19:27	1
Dissolved Organic Carbon - Quad	2.6		0.50	0.26	mg/L			11/10/21 19:27	1

Client Sample ID: CH-CCR-W307R-1021

Lab Sample ID: 550-173411-39

Date Collected: 10/28/21 09:17
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			11/03/21 21:06	200
Fluoride	0.56	D1 E4	0.80	0.095	mg/L			11/03/21 20:38	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 16:53	5
Sulfate	2700	D2	400	85	mg/L			11/03/21 21:06	200

Client Sample ID: CH-CCR-W307R-1021

Lab Sample ID: 550-173411-39

Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 20:14	1
Lithium	0.28		0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 04:44	1
Boron	2.6		0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 18:47	1
Calcium	720		2.0	0.013	mg/L		11/02/21 06:47	11/04/21 18:47	1
Iron	0.33		0.10	0.010	mg/L		11/02/21 06:47	11/03/21 20:14	1
Manganese	1.8		0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 20:14	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00015	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:35	11/04/21 21:56	2
Arsenic	0.0017	D1	0.0010	0.00049	mg/L		11/02/21 08:35	11/10/21 19:59	2
Barium	0.028	D1	0.0010	0.00052	mg/L		11/02/21 08:35	11/04/21 21:56	2
Cadmium	0.00071	D1	0.00020	0.000046	mg/L		11/02/21 08:35	11/04/21 21:56	2
Chromium	0.011	D1	0.0020	0.00087	mg/L		11/02/21 08:35	11/04/21 21:56	2
Cobalt	0.072	D1	0.0010	0.00013	mg/L		11/02/21 08:35	11/04/21 21:56	2
Lead	0.0010	D1	0.0010	0.00044	mg/L		11/02/21 08:35	11/04/21 21:56	2
Molybdenum	0.027	D1	0.0010	0.00040	mg/L		11/02/21 08:35	11/04/21 21:56	2
Selenium	0.0021	D1	0.0010	0.00015	mg/L		11/02/21 08:35	11/15/21 16:06	2
Thallium	0.000044	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:35	11/10/21 19:59	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.058		0.050	0.039	mg/L			11/09/21 07:37	1
Total Dissolved Solids	8400	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.1	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W307R-1021

Lab Sample ID: 550-173411-40

Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.22		0.10	0.010	mg/L		11/02/21 11:04	11/03/21 23:36	1
Manganese	1.9		0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 23:36	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 18:53	1
Cobalt	0.055		0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 18:53	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			11/10/21 19:37	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			11/10/21 19:37	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			11/10/21 19:37	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1021
Date Collected: 10/28/21 08:13
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-41
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3200	D2	400	100	mg/L			11/03/21 22:02	200
Fluoride	0.54	D1 E4	0.80	0.095	mg/L			11/03/21 21:34	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 17:21	5
Sulfate	2500	D2	400	85	mg/L			11/03/21 22:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/03/21 20:32	1
Lithium	0.41		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:02	1
Boron	0.41		0.050	0.0025	mg/L		11/02/21 06:52	11/05/21 14:28	1
Calcium	820		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:48	1
Iron	0.20		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:32	1
Manganese	0.38		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:32	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000076	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:20	1
Arsenic	0.0013		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:24	1
Barium	0.0077		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:20	1
Cadmium	0.000040	E4	0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:20	1
Chromium	0.0086		0.0050	0.0022	mg/L		11/12/21 20:00	11/15/21 16:29	1
Cobalt	0.0021		0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:20	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:20	1
Molybdenum	0.0025		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:20	1
Selenium	0.0026		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:50	1
Thallium	0.00013		0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:50	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:41	1
Total Dissolved Solids	7900	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	12.3	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W308-1021
Date Collected: 10/28/21 08:13
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-42
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.18		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:40	1
Manganese	0.38		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:40	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.00050	0.00025	mg/L		11/02/21 09:47	11/09/21 09:33	1
Cobalt	0.0021		0.00050	0.000063	mg/L		11/02/21 09:47	11/04/21 18:36	1

Client Sample ID: CH-CCR-W308-1021

Lab Sample ID: 550-173411-42

Date Collected: 10/28/21 08:13
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2	M2 R13	0.50	0.26	mg/L			11/10/21 20:50	1
Dissolved Organic Carbon - Duplicate	1.2	M2 R13	0.50	0.26	mg/L			11/10/21 20:50	1
Dissolved Organic Carbon - Quad	1.2	M2 R13	0.50	0.26	mg/L			11/10/21 20:50	1

Client Sample ID: CH-CCR-W309-1021

Lab Sample ID: 550-173411-43

Date Collected: 10/27/21 14:55
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	100	mg/L			11/03/21 22:58	200
Fluoride	1.3	D1	0.80	0.095	mg/L			11/03/21 22:30	2
Nitrate Nitrite as N	2.8	D1	0.25	0.11	mg/L			11/08/21 17:49	5
Sulfate	3100	D2	400	85	mg/L			11/03/21 22:58	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/03/21 20:35	1
Lithium	0.33		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:06	1
Boron	0.46		0.050	0.0025	mg/L		11/02/21 06:52	11/05/21 14:30	1
Calcium	460		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:51	1
Iron	0.059	E4	0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:35	1
Manganese	0.41		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:35	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000065	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:22	1
Arsenic	0.0013		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:26	1
Barium	0.0067		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:22	1
Cadmium	0.000059	E4	0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:22	1
Chromium	0.015		0.0010	0.00043	mg/L		11/12/21 20:00	11/15/21 16:31	1
Cobalt	0.00022	E4	0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:22	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:22	1
Molybdenum	0.0083		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:22	1
Selenium	0.20		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:52	1
Thallium	0.000094	E4	0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:52	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:43	1
Total Dissolved Solids	6900	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.6	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W309-1021

Lab Sample ID: 550-173411-44
Date Collected: 10/27/21 14:55
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.040	E4	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:37	1
Manganese	0.41		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:37	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020		0.00050	0.00025	mg/L		11/02/21 09:47	11/09/21 09:35	1
Cobalt	0.00020	E4	0.00050	0.000063	mg/L		11/02/21 09:47	11/04/21 18:38	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.83		0.50	0.26	mg/L			11/10/21 21:25	1
Dissolved Organic Carbon - Duplicate	0.82		0.50	0.26	mg/L			11/10/21 21:25	1
Dissolved Organic Carbon - Quad	0.83		0.50	0.26	mg/L			11/10/21 21:25	1

Client Sample ID: CH-CCR-W314-1021

Lab Sample ID: 550-173411-45
Date Collected: 10/29/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			11/03/21 23:54	200
Fluoride	1.1	D1	0.80	0.095	mg/L			11/03/21 23:26	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 18:17	5
Sulfate	2200	D2	400	85	mg/L			11/03/21 23:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 16:53	1
Lithium	0.30		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:10	1
Boron	1.3	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 16:53	1
Calcium	730		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:53	1
Iron	0.073	E4	0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:43	1
Manganese	0.093		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:43	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000067	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:24	1
Arsenic	0.0013		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:28	1
Barium	0.011		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:24	1
Cadmium	0.00043		0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:24	1
Chromium	0.071		0.0020	0.00087	mg/L		11/12/21 20:00	11/15/21 16:33	1
Cobalt	0.030		0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:24	1
Lead	0.00088		0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:24	1
Molybdenum	0.016		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:24	1
Selenium	0.00076		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:54	1
Thallium	0.000021	E4	0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:54	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:02	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1021

Lab Sample ID: 550-173411-45
Date Collected: 10/29/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:44	1
Total Dissolved Solids	6800	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.4	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	10.6	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-W314-1021

Lab Sample ID: 550-173411-46
Date Collected: 10/29/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.058	E4	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:42	1
Manganese	0.094		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:42	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0017		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:14	1
Cobalt	0.028		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:14	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4		0.50	0.26	mg/L			11/10/21 21:38	1
Dissolved Organic Carbon - Duplicate	1.4		0.50	0.26	mg/L			11/10/21 21:38	1
Dissolved Organic Carbon - Quad	1.4		0.50	0.26	mg/L			11/10/21 21:38	1

Client Sample ID: CH-CCR-W317-1021

Lab Sample ID: 550-173411-47
Date Collected: 10/21/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1500	D2	400	100	mg/L			11/03/21 06:16	200
Fluoride	0.34	D1 E4	0.80	0.095	mg/L			11/02/21 22:17	2
Sulfate	750	D2	400	85	mg/L			11/03/21 06:16	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/03/21 20:30	1
Boron	0.20		0.050	0.0025	mg/L		11/02/21 06:52	11/05/21 14:25	1
Calcium	350	M3	2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:04	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000070	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:18	1
Arsenic	0.0052		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:21	1
Barium	0.031		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:18	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:18	1
Chromium	0.0046		0.0010	0.00043	mg/L		11/12/21 20:00	11/15/21 16:27	1
Cobalt	0.00018	E4	0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:18	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:18	1
Molybdenum	0.0025		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:18	1

Client Sample ID: CH-CCR-W317-1021
Lab Sample ID: 550-173411-47
Date Collected: 10/21/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	0.00063		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:48	1
Thallium	0.00040		0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:48	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	3600	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.5	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	11.4	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-FD04-1021
Lab Sample ID: 550-173411-49
Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2700	D2	400	100	mg/L			11/04/21 00:49	200
Fluoride	0.55	D1 E4	0.80	0.095	mg/L			11/04/21 00:22	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 18:45	5
Sulfate	2700	D2	400	85	mg/L			11/04/21 00:49	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 16:56	1
Lithium	0.26		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:14	1
Boron	2.5	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 16:56	1
Calcium	700		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:56	1
Iron	0.32		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:45	1
Manganese	1.8		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:45	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00015	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:26	1
Arsenic	0.0018		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:30	1
Barium	0.022		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:26	1
Cadmium	0.00054		0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:26	1
Chromium	0.0092	B1	0.0010	0.00043	mg/L		11/02/21 08:42	11/12/21 12:56	1
Cobalt	0.062		0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:26	1
Lead	0.00090		0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:26	1
Molybdenum	0.022		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:26	1
Selenium	0.0012		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:56	1
Thallium	0.000054	E4	0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:56	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:08	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-FD04-1021
Lab Sample ID: 550-173411-49
Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:46	1
Total Dissolved Solids	7900	D2	100	100	mg/L			11/02/21 06:30	1
pH	7.3	H5	1.7	1.7	SU			11/09/21 14:02	1
Temperature	12.3	H5	0.1	0.1	Degrees C			11/09/21 14:02	1

Client Sample ID: CH-CCR-FD04-1021
Lab Sample ID: 550-173411-50
Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.22		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:45	1
Manganese	1.9		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:45	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:16	1
Cobalt	0.056		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:16	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			11/11/21 18:10	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			11/11/21 18:10	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			11/11/21 18:10	1

Client Sample ID: CH-CCR-BAP-1021
Lab Sample ID: 550-173411-51
Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1800	D2	400	100	mg/L			11/04/21 04:33	200
Fluoride	3.9	D1	0.80	0.095	mg/L			11/04/21 03:09	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 20:08	5
Sulfate	2900	D2	400	85	mg/L			11/04/21 04:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 16:58	1
Lithium	0.17		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:30	1
Boron	3.2	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 16:58	1
Calcium	540		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 16:58	1
Iron	0.93		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:48	1
Magnesium	290		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 16:58	1
Manganese	0.13		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:48	1
Potassium	27		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 16:58	1
Sodium	1400	D2	1.0	0.061	mg/L		11/02/21 06:52	11/04/21 16:07	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0023		0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:29	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1021
Lab Sample ID: 550-173411-51
Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.026		0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:32	1
Barium	0.29		0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:29	1
Cadmium	0.000069	E4	0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:29	1
Chromium	0.0037		0.0020	0.00087	mg/L		11/12/21 20:00	11/15/21 16:35	1
Cobalt	0.0014		0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:29	1
Lead	0.0010		0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:29	1
Molybdenum	0.035		0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:29	1
Selenium	0.0072		0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:58	1
Thallium	0.000073	E4	0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:58	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:47	1
Alkalinity as CaCO3	150		6.0	6.0	mg/L			11/10/21 13:37	1
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L			11/10/21 13:37	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 13:37	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 13:37	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 13:37	1
Total Dissolved Solids	6400	D2	100	100	mg/L			11/02/21 06:33	1
pH	8.4	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	11.0	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	3.0	D1	1.0	0.52	mg/L			11/06/21 18:13	2

Client Sample ID: CH-CCR-BAP-1021
Lab Sample ID: 550-173411-52
Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.054	E4	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:48	1
Manganese	0.12		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:48	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.022		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:18	1
Cobalt	0.00091		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:18	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.9		0.50	0.26	mg/L			11/11/21 18:23	1
Dissolved Organic Carbon - Duplicate	1.9		0.50	0.26	mg/L			11/11/21 18:23	1
Dissolved Organic Carbon - Quad	1.9		0.50	0.26	mg/L			11/11/21 18:23	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1021

Lab Sample ID: 550-173411-53
Date Collected: 10/30/21 14:40
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2600	D2	400	100	mg/L			11/04/21 06:25	200
Fluoride	3.3	D1	0.80	0.095	mg/L			11/04/21 05:57	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 20:36	5
Sulfate	3000	D2	400	85	mg/L			11/04/21 06:25	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:01	1
Lithium	0.23		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:50	1
Boron	4.7	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:01	1
Calcium	720		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:01	1
Iron	1.0		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:51	1
Magnesium	290		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:01	1
Manganese	3.7		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:51	1
Potassium	15		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:01	1
Sodium	1900	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:09	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000090	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:31	2
Arsenic	0.0016	D1	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:34	2
Barium	0.011	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:31	2
Cadmium	0.00064	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:31	2
Chromium	0.00099	E4	0.0010	0.00043	mg/L		11/12/21 20:00	11/15/21 16:37	1
Cobalt	0.010	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:31	2
Lead	0.00080	D1 E4	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:31	2
Molybdenum	0.031	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:31	2
Selenium	0.0015		0.0010	0.00015	mg/L		11/02/21 08:42	11/12/21 13:01	2
Thallium	ND	E8	0.00020	0.000026	mg/L		11/02/21 08:42	11/12/21 13:01	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.056		0.050	0.039	mg/L			11/09/21 07:49	1
Alkalinity as CaCO3	160		6.0	6.0	mg/L			11/10/21 13:54	1
Bicarbonate Alkalinity as CaCO3	160		6.0	6.0	mg/L			11/10/21 13:54	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 13:54	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 13:54	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 13:54	1
Total Dissolved Solids	8100	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.5	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	11.5	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	1.6		0.50	0.26	mg/L			11/06/21 18:24	1

Client Sample ID: CH-CCR-BAPTD-1021

Lab Sample ID: 550-173411-54

Date Collected: 10/30/21 14:40

Matrix: Water

Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.18		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:50	1
Manganese	3.6		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:50	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0021		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:20	1
Cobalt	0.0096		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:20	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L			11/10/21 22:11	1
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L			11/10/21 22:11	1
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L			11/10/21 22:11	1

Client Sample ID: CH-CCR-Petroglyph-1021

Lab Sample ID: 550-173411-55

Date Collected: 10/30/21 15:20

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			11/04/21 07:21	200
Fluoride	3.6	D1	0.80	0.095	mg/L			11/04/21 06:53	2
Nitrate Nitrite as N	0.20	D1 E4	0.25	0.11	mg/L			11/08/21 21:04	5
Sulfate	2900	D2	400	85	mg/L			11/04/21 07:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:04	1
Lithium	0.19		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:54	1
Boron	3.6	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:04	1
Calcium	670		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:04	1
Iron	0.059	E4	0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:53	1
Magnesium	250		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:04	1
Manganese	2.0		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:53	1
Potassium	15		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:04	1
Sodium	1500	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:12	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00052	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:37	2
Arsenic	0.0026	D1	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:40	2
Barium	0.0058	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:37	2
Cadmium	0.00018	D1 E4	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:37	2
Chromium	0.0033		0.0020	0.00087	mg/L		11/12/21 20:00	11/15/21 16:43	1
Cobalt	0.019	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:37	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:37	2
Molybdenum	0.028	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:37	2
Selenium	0.0016		0.0010	0.00015	mg/L		11/02/21 08:42	11/12/21 13:09	2
Thallium	0.000056	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:42	11/11/21 20:27	2

Client Sample ID: CH-CCR-Petroglyph-1021

Lab Sample ID: 550-173411-55

Date Collected: 10/30/21 15:20
Matrix: Water
Date Received: 11/01/21 15:48

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.061**		0.050	0.039	mg/L			11/09/21 07:50	1
Alkalinity as CaCO3	**74**		6.0	6.0	mg/L			11/10/21 14:03	1
Bicarbonate Alkalinity as CaCO3	**74**		6.0	6.0	mg/L			11/10/21 14:03	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:03	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:03	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:03	1
Total Dissolved Solids	**7100**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**12.3**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**1.1**	**N1**	0.50	0.26	mg/L			11/11/21 21:42	1

Client Sample ID: CH-CCR-Petroglyph-1021

Lab Sample ID: 550-173411-56

Date Collected: 10/30/21 15:20
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.051**	**E4**	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:58	1
Manganese	**2.1**		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:58	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0035**		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:26	1
Cobalt	**0.017**		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:26	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		0.50	0.26	mg/L			11/10/21 22:24	1
Dissolved Organic Carbon - Duplicate	**1.2**		0.50	0.26	mg/L			11/10/21 22:24	1
Dissolved Organic Carbon - Quad	**1.2**		0.50	0.26	mg/L			11/10/21 22:24	1

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-57

Date Collected: 10/30/21 15:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**	**D2**	400	100	mg/L			11/06/21 06:44	200
Fluoride	**3.6**	**D1**	0.80	0.095	mg/L			11/06/21 06:16	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 21:32	5
Sulfate	**3100**	**D2**	400	85	mg/L			11/06/21 06:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:06	1
Lithium	**0.20**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 00:58	1
Boron	**4.0**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:06	1

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-57
Date Collected: 10/30/21 15:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	670		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:06	1
Iron	1.9		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:56	1
Magnesium	280		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:06	1
Manganese	2.8		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:56	1
Potassium	16		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:06	1
Sodium	1600	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:14	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00021	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:39	2
Arsenic	0.0025	D1	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:42	2
Barium	0.0073	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:39	2
Cadmium	0.00036	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:39	2
Chromium	0.015		0.0013	0.00054	mg/L		11/12/21 20:00	11/15/21 16:45	1
Cobalt	0.016	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:39	2
Lead	0.0054	D1	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:39	2
Molybdenum	0.067	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:39	2
Selenium	0.0012		0.0010	0.00015	mg/L		11/02/21 08:42	11/12/21 13:11	2
Thallium	0.000030	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:42	11/11/21 20:29	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.15		0.050	0.039	mg/L			11/09/21 07:52	1
Alkalinity as CaCO3	81		6.0	6.0	mg/L			11/10/21 14:12	1
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L			11/10/21 14:12	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:12	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:12	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:12	1
Total Dissolved Solids	7700	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.4	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	12.1	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	1.2		0.50	0.26	mg/L			11/06/21 20:26	1

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-58
Date Collected: 10/30/21 15:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.36		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:00	1
Manganese	2.6		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:00	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0019		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:28	1
Cobalt	0.014		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:28	1

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-58

Date Collected: 10/30/21 15:52

Matrix: Water

Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			11/10/21 22:37	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			11/10/21 22:37	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			11/10/21 22:37	1

Client Sample ID: CH-CCR-TWX3-1021

Lab Sample ID: 550-173411-59

Date Collected: 10/31/21 08:14

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			11/06/21 07:40	200
Fluoride	2.8	D1	0.80	0.095	mg/L			11/06/21 07:12	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 22:00	5
Sulfate	3000	D2	400	85	mg/L			11/06/21 07:40	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:14	1
Lithium	0.20		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:02	1
Boron	3.5	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:14	1
Calcium	670		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:14	1
Iron	0.20		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:58	1
Magnesium	240		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:14	1
Manganese	3.6		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:58	1
Potassium	13		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:14	1
Sodium	1500	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:17	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:41	2
Arsenic	0.0017	D1	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:44	2
Barium	0.0090	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:41	2
Cadmium	0.00052	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:41	2
Chromium	0.011		0.0020	0.00087	mg/L		11/12/21 20:00	11/15/21 16:47	1
Cobalt	0.017	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:41	2
Lead	0.0050	D1	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:41	2
Molybdenum	0.049	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:41	2
Selenium	0.0027		0.0010	0.00015	mg/L		11/02/21 08:42	11/12/21 13:13	2
Thallium	0.000092	D1 E4	0.00020	0.000026	mg/L		11/02/21 08:42	11/11/21 20:31	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.15		0.050	0.039	mg/L			11/09/21 07:53	1
Alkalinity as CaCO3	73		6.0	6.0	mg/L			11/10/21 14:21	1
Bicarbonate Alkalinity as CaCO3	73		6.0	6.0	mg/L			11/10/21 14:21	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:21	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-1021

Lab Sample ID: 550-173411-59
Date Collected: 10/31/21 08:14
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:21	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:21	1
Total Dissolved Solids	**7000**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**11.6**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**1.1**		0.50	0.26	mg/L			11/11/21 21:53	1

Client Sample ID: CH-CCR-TWX3-1021

Lab Sample ID: 550-173411-60
Date Collected: 10/31/21 08:14
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.071**	**E4**	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:03	1
Manganese	**3.6**		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:03	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0024**		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:30	1
Cobalt	**0.015**		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		0.50	0.26	mg/L			11/10/21 22:49	1
Dissolved Organic Carbon - Duplicate	**1.2**		0.50	0.26	mg/L			11/10/21 22:49	1
Dissolved Organic Carbon - Quad	**1.2**		0.50	0.26	mg/L			11/10/21 22:49	1

Client Sample ID: CH-CCR-TWX4-1021

Lab Sample ID: 550-173411-61
Date Collected: 10/31/21 08:32
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**	**D2**	400	100	mg/L			11/06/21 08:36	200
Fluoride	**3.1**	**D1**	0.80	0.095	mg/L			11/06/21 08:08	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 22:28	5
Sulfate	**3300**	**D2**	400	85	mg/L			11/06/21 08:36	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:17	1
Lithium	**0.21**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:06	1
Boron	**3.8**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:17	1
Calcium	**670**		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:17	1
Iron	**1.0**		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:01	1
Magnesium	**230**		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:17	1
Manganese	**6.7**		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:01	1
Potassium	**17**		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:17	1
Sodium	**1600**	**D2**	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:20	5

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX4-1021

Lab Sample ID: 550-173411-61
Date Collected: 10/31/21 08:32
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00038	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:43	2
Arsenic	0.0023	D1	0.0020	0.00099	mg/L		11/02/21 08:42	11/11/21 20:33	4
Barium	0.0095	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:43	2
Cadmium	0.00031	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:43	2
Chromium	0.51		0.0050	0.0022	mg/L		11/12/21 20:00	11/15/21 16:50	1
Cobalt	0.017	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:43	2
Lead	0.0020	D1	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:43	2
Molybdenum	0.11	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:43	2
Selenium	0.0044		0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:15	4
Thallium	0.00044	D1	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:33	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.44		0.050	0.039	mg/L			11/09/21 08:04	1
Alkalinity as CaCO3	81		6.0	6.0	mg/L			11/10/21 14:30	1
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L			11/10/21 14:30	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:30	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:30	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:30	1
Total Dissolved Solids	6600	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.6	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	10.5	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	1.3		0.50	0.26	mg/L			11/06/21 20:47	1

Client Sample ID: CH-CCR-TWX4-1021

Lab Sample ID: 550-173411-62
Date Collected: 10/31/21 08:32
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.090	E4	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:06	1
Manganese	7.1		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:06	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0022		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:32	1
Cobalt	0.0095		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:32	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.5		0.50	0.26	mg/L			11/10/21 22:59	1
Dissolved Organic Carbon - Duplicate	1.5		0.50	0.26	mg/L			11/10/21 22:59	1
Dissolved Organic Carbon - Quad	1.5		0.50	0.26	mg/L			11/10/21 22:59	1

Client Sample ID: CH-CCR-TWX5-1021
Date Collected: 10/31/21 08:51
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-63
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**	**D2**	400	100	mg/L			11/06/21 09:32	200
Fluoride	**3.1**	**D1**	0.80	0.095	mg/L			11/06/21 09:04	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 22:56	5
Sulfate	**3300**	**D2**	400	85	mg/L			11/06/21 09:32	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:19	1
Lithium	**0.20**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:11	1
Boron	**3.8**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:19	1
Calcium	**650**		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:19	1
Iron	**0.42**		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:03	1
Magnesium	**240**		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:19	1
Manganese	**4.0**		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:03	1
Potassium	**15**		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:19	1
Sodium	**1600**	**D2**	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:27	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00018**	**D1 E4**	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:45	2
Arsenic	**0.0037**	**D1**	0.0020	0.00099	mg/L		11/02/21 08:42	11/11/21 20:35	4
Barium	**0.012**	**D1**	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:45	2
Cadmium	**0.00044**	**D1**	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:45	2
Chromium	**0.026**		0.0013	0.00054	mg/L		11/12/21 20:00	11/15/21 16:52	1
Cobalt	**0.016**	**D1**	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:45	2
Lead	**0.0040**	**D1**	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:45	2
Molybdenum	**0.042**	**D1**	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:45	2
Selenium	**0.0023**		0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:17	4
Thallium	**0.00010**	**D1 E4**	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:35	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.42**		0.050	0.039	mg/L			11/09/21 08:08	1
Alkalinity as CaCO3	**71**		6.0	6.0	mg/L			11/10/21 14:39	1
Bicarbonate Alkalinity as CaCO3	**71**		6.0	6.0	mg/L			11/10/21 14:39	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:39	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:39	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:39	1
Total Dissolved Solids	**7200**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**10.9**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**1.0**		0.50	0.26	mg/L			11/11/21 22:03	1

Client Sample ID: CH-CCR-TWX5-1021

Lab Sample ID: 550-173411-64
Date Collected: 10/31/21 08:51
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.14		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:08	1
Manganese	3.8		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:08	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0023		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:35	1
Cobalt	0.014		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:35	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			11/10/21 23:36	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			11/10/21 23:36	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			11/10/21 23:36	1

Client Sample ID: CH-CCR-TWX6-1021

Lab Sample ID: 550-173411-65
Date Collected: 10/31/21 09:10
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			11/06/21 07:39	200
Fluoride	3.0	D1	0.80	0.095	mg/L			11/06/21 07:11	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 23:24	5
Sulfate	3100	D2	400	85	mg/L			11/06/21 07:39	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:22	1
Lithium	0.20		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:15	1
Boron	3.3	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:22	1
Calcium	650		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:22	1
Iron	0.26		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:06	1
Magnesium	220		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:22	1
Manganese	2.9		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:06	1
Potassium	10		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:22	1
Sodium	1600	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:30	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00048	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:47	2
Arsenic	0.0042	D1	0.0020	0.00099	mg/L		11/02/21 08:42	11/11/21 20:37	4
Barium	0.0087	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:47	2
Cadmium	0.00065	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:47	2
Chromium	0.037	B1	0.0040	0.0017	mg/L		11/02/21 08:42	11/12/21 13:19	4
Cobalt	0.018	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:47	2
Lead	0.00090	D1 E4	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:47	2
Molybdenum	0.063	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:47	2
Selenium	0.0015	E4	0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:19	4
Thallium	ND	D1 E8	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:37	4

Client Sample ID: CH-CCR-TWX6-1021

Lab Sample ID: 550-173411-65
Date Collected: 10/31/21 09:10
Date Received: 11/01/21 15:48
Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.17**		0.050	0.039	mg/L			11/09/21 08:10	1
Alkalinity as CaCO3	**68**		6.0	6.0	mg/L			11/10/21 14:48	1
Bicarbonate Alkalinity as CaCO3	**68**		6.0	6.0	mg/L			11/10/21 14:48	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:48	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:48	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:48	1
Total Dissolved Solids	**7100**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**10.9**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**1.1**		0.50	0.26	mg/L			11/11/21 22:16	1

Client Sample ID: CH-CCR-TWX6-1021

Lab Sample ID: 550-173411-66
Date Collected: 10/31/21 09:10
Date Received: 11/01/21 15:48
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.060**	**E4**	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:11	1
Manganese	**2.9**		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:11	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0033**		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:37	1
Cobalt	**0.016**		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:37	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.1**		0.50	0.26	mg/L			11/11/21 18:33	1
Dissolved Organic Carbon - Duplicate	**1.1**		0.50	0.26	mg/L			11/11/21 18:33	1
Dissolved Organic Carbon - Quad	**1.1**		0.50	0.26	mg/L			11/11/21 18:33	1

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-67
Date Collected: 10/31/21 09:36
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	400	100	mg/L			11/06/21 08:35	200
Fluoride	**2.5**	**D1**	0.80	0.095	mg/L			11/06/21 08:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/08/21 23:52	5
Sulfate	**3000**	**D2**	400	85	mg/L			11/06/21 08:35	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:24	1
Lithium	**0.26**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:19	1
Boron	**2.8**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:24	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-67

Date Collected: 10/31/21 09:36
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	670		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:24	1
Iron	5.9		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:14	1
Magnesium	210		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:24	1
Manganese	9.0		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:14	1
Potassium	9.2		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:24	1
Sodium	1700	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:33	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00031	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:49	2
Arsenic	0.0072	D1	0.0020	0.00099	mg/L		11/02/21 08:42	11/11/21 20:40	4
Barium	0.020	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:49	2
Cadmium	0.0024	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:49	2
Chromium	0.99		0.0020	0.00087	mg/L		11/12/21 20:00	11/15/21 16:54	1
Cobalt	0.013	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:49	2
Lead	0.0053	D1	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:49	2
Molybdenum	0.20	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:49	2
Selenium	0.0018	E4	0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:21	4
Thallium	0.00010	D1 E4	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:40	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 22:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.054		0.050	0.039	mg/L			11/09/21 08:11	1
Alkalinity as CaCO3	76		6.0	6.0	mg/L			11/10/21 14:57	1
Bicarbonate Alkalinity as CaCO3	76		6.0	6.0	mg/L			11/10/21 14:57	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:57	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 14:57	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 14:57	1
Total Dissolved Solids	7400	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.7	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	10.6	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	1.5		0.50	0.26	mg/L			11/06/21 21:18	1

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-68

Date Collected: 10/31/21 09:36
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.9		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:13	1
Manganese	5.9		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0032		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:39	1
Cobalt	0.0039		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:39	1

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-68
Date Collected: 10/31/21 09:36
Date Received: 11/01/21 15:48
Matrix: Water

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L			11/11/21 18:46	1
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L			11/11/21 18:46	1
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L			11/11/21 18:46	1

Client Sample ID: CH-CCR-TWX8-1021

Lab Sample ID: 550-173411-69
Date Collected: 10/31/21 09:52
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4000	D2	400	100	mg/L			11/06/21 20:27	200
Fluoride	2.2	D1	0.80	0.095	mg/L			11/06/21 19:59	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 02:40	5
Sulfate	6300	D2	400	85	mg/L			11/06/21 20:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:27	1
Lithium	0.22		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:23	1
Boron	2.9	B7	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:27	1
Calcium	650		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:27	1
Iron	0.050	E4	0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:16	1
Magnesium	220		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:27	1
Manganese	4.6		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:16	1
Potassium	12		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:27	1
Sodium	1600	D2	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:35	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00018	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:51	2
Arsenic	0.0017	D1 E4	0.0020	0.00099	mg/L		11/02/21 08:42	11/11/21 20:42	4
Barium	0.0069	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:51	2
Cadmium	0.00065	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:51	2
Chromium	0.0096		0.0050	0.0022	mg/L		11/12/21 20:00	11/15/21 16:56	1
Cobalt	0.019	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:51	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:51	2
Molybdenum	0.045	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:51	2
Selenium	0.0023		0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:23	4
Thallium	ND	D1 E8	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:42	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.13		0.050	0.039	mg/L			11/09/21 08:13	1
Alkalinity as CaCO3	95		6.0	6.0	mg/L			11/10/21 15:06	1
Bicarbonate Alkalinity as CaCO3	95		6.0	6.0	mg/L			11/10/21 15:06	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:06	1

Client Sample ID: CH-CCR-TWX8-1021

Lab Sample ID: 550-173411-69
Date Collected: 10/31/21 09:52
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 15:06	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:06	1
Total Dissolved Solids	**6300**	**D2**	100	100	mg/L			11/02/21 06:33	1
pH	**7.5**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**11.2**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**1.2**		0.50	0.26	mg/L			11/11/21 22:26	1

Client Sample ID: CH-CCR-TWX8-1021

Lab Sample ID: 550-173411-70
Date Collected: 10/31/21 09:52
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.035**	**E4**	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:16	1
Manganese	**4.5**		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:16	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0018**		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:41	1
Cobalt	**0.017**		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:41	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.4**		0.50	0.26	mg/L			11/11/21 18:56	1
Dissolved Organic Carbon - Duplicate	**1.4**		0.50	0.26	mg/L			11/11/21 18:56	1
Dissolved Organic Carbon - Quad	**1.4**		0.50	0.26	mg/L			11/11/21 18:56	1

Client Sample ID: CH-CCR-TWX9-1021

Lab Sample ID: 550-173411-71
Date Collected: 10/31/21 10:24
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**	**D2**	400	100	mg/L			11/06/21 21:23	200
Fluoride	**2.6**	**D1**	0.80	0.095	mg/L			11/06/21 20:55	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 04:03	5
Sulfate	**4100**	**D2**	400	85	mg/L			11/06/21 21:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:30	1
Lithium	**0.23**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:27	1
Boron	**2.8**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:30	1
Calcium	**690**		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:30	1
Iron	**0.81**		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:19	1
Magnesium	**230**		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:30	1
Manganese	**3.7**		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:19	1
Potassium	**17**		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:30	1
Sodium	**1500**	**D2**	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:38	5

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-1021

Lab Sample ID: 550-173411-71
Date Collected: 10/31/21 10:24
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00092	D1 E4	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:53	2
Arsenic	0.0019	D1	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:57	2
Barium	0.0046	D1	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:53	2
Cadmium	0.00075	D1	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:53	2
Chromium	1.5		0.020	0.0087	mg/L		11/12/21 20:00	11/15/21 16:58	1
Cobalt	0.012	D1	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:53	2
Lead	0.0020	D1	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:53	2
Molybdenum	0.084	D1	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:53	2
Selenium	0.0033		0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:26	4
Thallium	0.000096	D1 E4	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:44	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.17		0.050	0.039	mg/L			11/09/21 08:14	1
Alkalinity as CaCO3	90		6.0	6.0	mg/L			11/10/21 15:34	1
Bicarbonate Alkalinity as CaCO3	90		6.0	6.0	mg/L			11/10/21 15:34	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:34	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 15:34	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:34	1
Total Dissolved Solids	6900	D2	100	100	mg/L			11/02/21 06:33	1
pH	7.7	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	12.6	H5	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	1.0		0.50	0.26	mg/L			11/06/21 21:39	1

Client Sample ID: CH-CCR-TWX9-1021

Lab Sample ID: 550-173411-72
Date Collected: 10/31/21 10:24
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.20		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:19	1
Manganese	3.8		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:19	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0020		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:43	1
Cobalt	0.0073		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:43	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			11/11/21 00:16	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			11/11/21 00:16	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			11/11/21 00:16	1

Client Sample ID: CH-CCR-TWX10-1021
Date Collected: 10/31/21 10:41
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-73
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**9400**	**D2**	400	100	mg/L			11/06/21 22:19	200
Fluoride	**0.62**	**D1 E4**	0.80	0.095	mg/L			11/06/21 21:51	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 04:31	5
Sulfate	**7000**	**D2**	400	85	mg/L			11/06/21 22:19	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 17:32	1
Lithium	**0.62**		0.020	0.0091	mg/L		11/10/21 07:45	11/11/21 01:47	1
Boron	**0.61**	**B7**	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 17:32	1
Calcium	**840**		2.0	0.013	mg/L		11/02/21 06:52	11/04/21 17:32	1
Iron	**1.2**		0.10	0.010	mg/L		11/02/21 06:52	11/03/21 21:22	1
Magnesium	**210**		2.0	0.044	mg/L		11/02/21 06:52	11/04/21 17:32	1
Manganese	**5.1**		0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 21:22	1
Potassium	**11**		0.50	0.17	mg/L		11/02/21 06:52	11/04/21 17:32	1
Sodium	**3100**	**D2**	2.5	0.15	mg/L		11/02/21 06:52	11/04/21 16:40	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00044**	**D1 E4**	0.0020	0.000087	mg/L		11/02/21 08:42	11/04/21 20:56	2
Arsenic	**0.0019**	**D1**	0.0010	0.00049	mg/L		11/02/21 08:42	11/10/21 18:59	2
Barium	**0.023**	**D1**	0.0010	0.00052	mg/L		11/02/21 08:42	11/04/21 20:56	2
Cadmium	**0.00026**	**D1**	0.00020	0.000046	mg/L		11/02/21 08:42	11/04/21 20:56	2
Chromium	**0.041**		0.0050	0.0022	mg/L		11/12/21 20:00	11/15/21 17:00	1
Cobalt	**0.0039**	**D1**	0.0010	0.00013	mg/L		11/02/21 08:42	11/04/21 20:56	2
Lead	**0.0027**	**D1**	0.0010	0.00044	mg/L		11/02/21 08:42	11/04/21 20:56	2
Molybdenum	**0.10**	**D1**	0.0010	0.00040	mg/L		11/02/21 08:42	11/04/21 20:56	2
Selenium	**0.0031**		0.0020	0.00030	mg/L		11/02/21 08:42	11/12/21 13:28	4
Thallium	ND	D1 E8	0.00040	0.000053	mg/L		11/02/21 08:42	11/11/21 20:46	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:29	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.39**		0.050	0.039	mg/L			11/09/21 08:16	1
Alkalinity as CaCO3	**110**		6.0	6.0	mg/L			11/10/21 15:52	1
Bicarbonate Alkalinity as CaCO3	**110**		6.0	6.0	mg/L			11/10/21 15:52	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:52	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 15:52	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:52	1
Total Dissolved Solids	**14000**	**D2**	200	200	mg/L			11/05/21 08:15	1
pH	**7.6**	**H5**	1.7	1.7	SU			11/11/21 15:30	1
Temperature	**12.7**	**H5**	0.1	0.1	Degrees C			11/11/21 15:30	1
Total Organic Carbon	**3.3**		0.50	0.26	mg/L			11/06/21 21:52	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample Results

Client Sample ID: CH-CCR-TWX10-1021

Lab Sample ID: 550-173411-74

Date Collected: 10/31/21 10:41

Matrix: Water

Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.93		0.10	0.010	mg/L		11/02/21 11:10	11/03/21 22:21	1
Manganese	4.7		0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 22:21	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0034		0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 19:45	1
Cobalt	0.0018		0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 19:45	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.3		0.50	0.26	mg/L			11/11/21 00:29	1
Dissolved Organic Carbon - Duplicate	3.3		0.50	0.26	mg/L			11/11/21 00:29	1
Dissolved Organic Carbon - Quad	3.3		0.50	0.26	mg/L			11/11/21 00:29	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-257637/1030
Matrix: Water
Analysis Batch: 257637
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/02/21 21:22	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/02/21 21:22	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/02/21 21:22	1

Lab Sample ID: LCS 550-257637/31
Matrix: Water
Analysis Batch: 257637
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.7		mg/L		104	90 - 110
Fluoride	4.00	4.03		mg/L		101	90 - 110
Sulfate	20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-257637/32
Matrix: Water
Analysis Batch: 257637
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 257637
Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.34	E4 D1	8.00	8.21	D1	mg/L		98	80 - 120

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257637
Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.34	E4 D1	8.00	8.34	D1	mg/L		100	80 - 120	2	20

Lab Sample ID: MB 550-257638/1056
Matrix: Water
Analysis Batch: 257638
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/03/21 05:20	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/03/21 05:20	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/03/21 05:20	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-257638/57
Matrix: Water
Analysis Batch: 257638

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.8		mg/L		104	90 - 110
Fluoride	4.00	4.15		mg/L		104	90 - 110
Sulfate	20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-257638/58
Matrix: Water
Analysis Batch: 257638

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.8		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 257638

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1500	D2	4000	5730	D2	mg/L		107	80 - 120
Sulfate	750	D2	4000	4960	D2	mg/L		105	80 - 120

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257638

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1500	D2	4000	5740	D2	mg/L		107	80 - 120	0	20
Sulfate	750	D2	4000	4980	D2	mg/L		106	80 - 120	0	20

Lab Sample ID: MB 550-257639/2
Matrix: Water
Analysis Batch: 257639

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/02/21 12:07	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/02/21 12:07	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/02/21 12:07	1

Lab Sample ID: LCS 550-257639/5
Matrix: Water
Analysis Batch: 257639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.1		mg/L		101	90 - 110
Fluoride	4.00	4.02		mg/L		100	90 - 110
Sulfate	20.0	19.7		mg/L		99	90 - 110

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-257639/6
Matrix: Water
Analysis Batch: 257639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.1		mg/L		101	90 - 110	0	20
Fluoride			4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate			20.0	19.8		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-173440-A-1 MS
Matrix: Water
Analysis Batch: 257639

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	93	M3	20.0	109	M3	mg/L		83	80 - 120
Fluoride	0.29	E4	4.00	4.22		mg/L		98	80 - 120
Sulfate	26		20.0	45.8		mg/L		97	80 - 120

Lab Sample ID: 550-173440-A-1 MSD
Matrix: Water
Analysis Batch: 257639

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	93	M3	20.0	113	M3	mg/L		100	80 - 120	3	20
Fluoride	0.29	E4	4.00	4.97		mg/L		117	80 - 120	16	20
Sulfate	26		20.0	49.6		mg/L		116	80 - 120	8	20

Lab Sample ID: MB 550-257640/2
Matrix: Water
Analysis Batch: 257640

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/02/21 11:40	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/02/21 11:40	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/02/21 11:40	1

Lab Sample ID: LCS 550-257640/5
Matrix: Water
Analysis Batch: 257640

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			20.0	20.4		mg/L		102	90 - 110
Fluoride			4.00	3.94		mg/L		98	90 - 110
Sulfate			20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-257640/6
Matrix: Water
Analysis Batch: 257640

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.5		mg/L		102	90 - 110	0	20
Fluoride			4.00	3.95		mg/L		99	90 - 110	0	20
Sulfate			20.0	19.7		mg/L		99	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173425-A-4 MS
Matrix: Water
Analysis Batch: 257640

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	450	E2 M3	20.0	449	E2 M3	mg/L		-14	80 - 120
Fluoride	0.38	E4	4.00	4.44		mg/L		101	80 - 120
Sulfate	250	E2 M3	20.0	255	E2 M3	mg/L		43	80 - 120

Lab Sample ID: 550-173425-A-4 MSD
Matrix: Water
Analysis Batch: 257640

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	450	E2 M3	20.0	448	E2 M3	mg/L		-14	80 - 120	0	20
Fluoride	0.38	E4	4.00	4.60		mg/L		106	80 - 120	4	20
Sulfate	250	E2 M3	20.0	255	E2 M3	mg/L		46	80 - 120	0	20

Lab Sample ID: MB 550-257740/2
Matrix: Water
Analysis Batch: 257740

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/03/21 12:43	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/03/21 12:43	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/03/21 12:43	1

Lab Sample ID: LCS 550-257740/5
Matrix: Water
Analysis Batch: 257740

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.9		mg/L		99	90 - 110
Fluoride	4.00	3.98		mg/L		100	90 - 110
Sulfate	20.0	19.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-257740/6
Matrix: Water
Analysis Batch: 257740

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.9		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.91		mg/L		98	90 - 110	2	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-173540-B-1 MS
Matrix: Water
Analysis Batch: 257740

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	42		20.0	63.4		mg/L		105	80 - 120
Fluoride	0.55		4.00	4.57		mg/L		101	80 - 120
Sulfate	60		20.0	79.6		mg/L		96	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173540-B-1 MSD
Matrix: Water
Analysis Batch: 257740

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	42		20.0	64.7		mg/L		111	80 - 120	2	20
Fluoride	0.55		4.00	4.93		mg/L		110	80 - 120	8	20
Sulfate	60		20.0	81.0		mg/L		103	80 - 120	2	20

Lab Sample ID: MB 550-257741/1030
Matrix: Water
Analysis Batch: 257741

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/04/21 01:45	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/04/21 01:45	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/04/21 01:45	1

Lab Sample ID: LCS 550-257741/31
Matrix: Water
Analysis Batch: 257741

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	19.9		mg/L		100	90 - 110
Fluoride	4.00	3.96		mg/L		99	90 - 110
Sulfate	20.0	19.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-257741/32
Matrix: Water
Analysis Batch: 257741

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.9		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.98		mg/L		100	90 - 110	1	20
Sulfate	20.0	19.5		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173411-51 MS
Matrix: Water
Analysis Batch: 257741

Client Sample ID: CH-CCR-BAP-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	3.9	D1	8.00	11.8	D1	mg/L		99	80 - 120

Lab Sample ID: 550-173411-51 MS
Matrix: Water
Analysis Batch: 257741

Client Sample ID: CH-CCR-BAP-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1800	D2	4000	6190	D2	mg/L		109	80 - 120
Sulfate	2900	D2	4000	6960	D2	mg/L		102	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173411-51 MSD | **Client Sample ID: CH-CCR-BAP-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257741

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	3.9	D1	8.00	11.9	D1	mg/L		100	80 - 120	1	20

Lab Sample ID: 550-173411-51 MSD | **Client Sample ID: CH-CCR-BAP-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257741

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1800	D2	4000	6200	D2	mg/L		109	80 - 120	0	20
Sulfate	2900	D2	4000	6970	D2	mg/L		102	80 - 120	0	20

Lab Sample ID: MB 550-257750/1030 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257750

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/04/21 01:11	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/04/21 01:11	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/04/21 01:11	1

Lab Sample ID: LCS 550-257750/31 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257750

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		102	90 - 110
Fluoride	4.00	3.91		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257750/32 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257750

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		101	90 - 110	0	20
Fluoride	4.00	3.90		mg/L		97	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173588-A-2 MS | **Client Sample ID: Matrix Spike**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 257750

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	26		20.0	48.2		mg/L		109	80 - 120
Fluoride	2.8		4.00	6.83		mg/L		100	80 - 120
Sulfate	22		20.0	41.9		mg/L		99	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173588-A-2 MSD
Matrix: Water
Analysis Batch: 257750

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	26		20.0	48.5		mg/L		111	80 - 120	1	20
Fluoride	2.8		4.00	6.89		mg/L		101	80 - 120	1	20
Sulfate	22		20.0	42.6		mg/L		102	80 - 120	2	20

Lab Sample ID: MB 550-257921/1032
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/06/21 02:59	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/06/21 02:59	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/06/21 02:59	1

Lab Sample ID: LCS 550-257921/33
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.0		mg/L		100	90 - 110
Fluoride	4.00	3.99		mg/L		100	90 - 110
Sulfate	20.0	19.5		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-257921/34
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	3.99		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.5		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173423-C-1 MS ^2
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.36	E4 D1	8.00	8.47	D1	mg/L		101	80 - 120
Sulfate	260	D2 M3	40.0	298	D2 M3	mg/L		100	80 - 120

Lab Sample ID: 550-173423-C-1 MS ^200
Matrix: Water
Analysis Batch: 257921

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	660	D2	4000	4740	D2	mg/L		102	80 - 120

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173423-C-1 MSD ^2
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257921

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.36	E4 D1	8.00	8.49	D1	mg/L		102	80 - 120	0	20
Sulfate	260	D2 M3	40.0	298	D2 M3	mg/L		99	80 - 120	0	20

Lab Sample ID: 550-173423-C-1 MSD ^200
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257921

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	660	D2	4000	4740	D2	mg/L		102	80 - 120	0	20

Lab Sample ID: MB 550-257933/1030
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257933

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/06/21 01:37	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/06/21 01:37	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/06/21 01:37	1

Lab Sample ID: LCS 550-257933/31
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257933

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Fluoride	4.00	3.93		mg/L		98	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257933/32
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257933

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.5		mg/L		103	90 - 110	0	20
Fluoride	4.00	3.93		mg/L		98	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173776-C-2 MS ^2
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 257933

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	590	E2 M3 D2	40.0	615	D2 E2 M3	mg/L		54	80 - 120
Fluoride	1.1	D1	8.00	9.29	D1	mg/L		102	80 - 120
Sulfate	970	E2 M3 D2	40.0	985	D2 E2 M3	mg/L		48	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173776-C-2 MSD ^2
Matrix: Water
Analysis Batch: 257933

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	590	E2 M3 D2	40.0	615	D2 E2 M3	mg/L		55	80 - 120	0	20
Fluoride	1.1	D1	8.00	9.34	D1	mg/L		103	80 - 120	1	20
Sulfate	970	E2 M3 D2	40.0	985	D2 E2 M3	mg/L		46	80 - 120	0	20

Lab Sample ID: MB 550-257939/2
Matrix: Water
Analysis Batch: 257939

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/06/21 12:32	1

Lab Sample ID: LCS 550-257939/5
Matrix: Water
Analysis Batch: 257939

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	7.80		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257939/6
Matrix: Water
Analysis Batch: 257939

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	7.80		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173411-1 MS
Matrix: Water
Analysis Batch: 257939

Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	35.7	D1	mg/L		89	80 - 120

Lab Sample ID: 550-173411-1 MSD
Matrix: Water
Analysis Batch: 257939

Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	36.1	D1	mg/L		90	80 - 120	1	20

Lab Sample ID: MB 550-257940/2
Matrix: Water
Analysis Batch: 257940

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/06/21 12:05	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/06/21 12:05	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/06/21 12:05	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-257940/5
Matrix: Water
Analysis Batch: 257940
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.3		mg/L		101	90 - 110
Fluoride	4.00	3.89		mg/L		97	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-257940/6
Matrix: Water
Analysis Batch: 257940
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		101	90 - 110	0	20
Fluoride	4.00	3.90		mg/L		97	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173862-A-1 MS
Matrix: Water
Analysis Batch: 257940
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	100	M2	30.0	128		mg/L		84	80 - 120
Fluoride	0.32	E4	6.00	6.72		mg/L		107	80 - 120
Sulfate	210	E2 M3	30.0	232	E2 M3	mg/L		63	80 - 120

Lab Sample ID: 550-173862-A-1 MSD
Matrix: Water
Analysis Batch: 257940
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	100	M2	30.0	126	M2	mg/L		78	80 - 120	2	20
Fluoride	0.32	E4	6.00	6.24		mg/L		99	80 - 120	7	20
Sulfate	210	E2 M3	30.0	230	E2 M3	mg/L		57	80 - 120	1	20

Lab Sample ID: MB 550-258039/1030
Matrix: Water
Analysis Batch: 258039
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/09/21 01:16	1

Lab Sample ID: MB 550-258039/1048
Matrix: Water
Analysis Batch: 258039
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/09/21 09:39	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-258039/2
Matrix: Water
Analysis Batch: 258039
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/08/21 12:16	1

Lab Sample ID: LCS 550-258039/5
Matrix: Water
Analysis Batch: 258039
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	7.72		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-258039/6
Matrix: Water
Analysis Batch: 258039
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	7.73		mg/L		97	90 - 110	0	20

Lab Sample ID: 550-173411-33 MS
Matrix: Water
Analysis Batch: 258039
Client Sample ID: CH-CCR-W304-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	38.4	D1	mg/L		96	80 - 120

Lab Sample ID: 550-173411-33 MSD
Matrix: Water
Analysis Batch: 258039
Client Sample ID: CH-CCR-W304-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	39.6	D1	mg/L		99	80 - 120	3	20

Lab Sample ID: MB 550-258040/1030
Matrix: Water
Analysis Batch: 258040
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/09/21 01:16	1

Lab Sample ID: LCS 550-258040/31
Matrix: Water
Analysis Batch: 258040
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	7.74		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-258040/32
Matrix: Water
Analysis Batch: 258040
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	7.74		mg/L		97	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 550-173411-69 MS
Matrix: Water
Analysis Batch: 258040

Client Sample ID: CH-CCR-TWX8-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	35.9	D1	mg/L		90	80 - 120

Lab Sample ID: 550-173411-69 MSD
Matrix: Water
Analysis Batch: 258040

Client Sample ID: CH-CCR-TWX8-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	35.8	D1	mg/L		90	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-257481/1-A
Matrix: Water
Analysis Batch: 257736

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/03/21 19:02	1
Iron	0.0759	E4	0.10	0.010	mg/L		11/02/21 06:47	11/03/21 19:02	1
Manganese	0.000850	E4	0.010	0.00019	mg/L		11/02/21 06:47	11/03/21 19:02	1

Lab Sample ID: MB 550-257481/1-A
Matrix: Water
Analysis Batch: 257838

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257481

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:47	11/04/21 17:40	1
Boron	0.0103	E4	0.050	0.0025	mg/L		11/02/21 06:47	11/04/21 17:40	1
Calcium	ND	E8	2.0	0.013	mg/L		11/02/21 06:47	11/04/21 17:40	1
Iron	ND	E8	0.10	0.010	mg/L		11/02/21 06:47	11/04/21 17:40	1
Manganese	0.00252	E4	0.010	0.00019	mg/L		11/02/21 06:47	11/04/21 17:40	1

Lab Sample ID: LCS 550-257481/2-A
Matrix: Water
Analysis Batch: 257736

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257481

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.968		mg/L		97	85 - 115
Iron	1.00	1.01		mg/L		101	85 - 115
Manganese	1.00	0.937		mg/L		94	85 - 115

Lab Sample ID: LCS 550-257481/2-A
Matrix: Water
Analysis Batch: 257838

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257481

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.933		mg/L		93	85 - 115
Boron	1.00	0.965		mg/L		96	85 - 115
Calcium	21.0	19.7		mg/L		94	85 - 115
Iron	1.00	0.948		mg/L		95	85 - 115
Manganese	1.00	0.960		mg/L		96	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: LCSD 550-257481/3-A
Matrix: Water
Analysis Batch: 257736

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257481

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.967		mg/L		97	85 - 115	0	20
Iron	1.00	0.989		mg/L		99	85 - 115	3	20
Manganese	1.00	0.961		mg/L		96	85 - 115	2	20

Lab Sample ID: LCSD 550-257481/3-A
Matrix: Water
Analysis Batch: 257838

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257481

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.949		mg/L		95	85 - 115	2	20
Boron	1.00	0.981		mg/L		98	85 - 115	2	20
Calcium	21.0	20.1		mg/L		96	85 - 115	2	20
Iron	1.00	0.976		mg/L		98	85 - 115	3	20
Manganese	1.00	0.974		mg/L		97	85 - 115	1	20

Lab Sample ID: MB 550-257482/1-A
Matrix: Water
Analysis Batch: 257737

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/03/21 20:17	1
Iron	ND	E8	0.10	0.010	mg/L		11/02/21 06:52	11/03/21 20:17	1
Magnesium	ND	E8	2.0	0.044	mg/L		11/02/21 06:52	11/03/21 20:17	1
Manganese	0.000390	E4	0.010	0.00019	mg/L		11/02/21 06:52	11/03/21 20:17	1
Potassium	ND	E8	0.50	0.17	mg/L		11/02/21 06:52	11/03/21 20:17	1
Sodium	0.936	B1	0.50	0.031	mg/L		11/02/21 06:52	11/03/21 20:17	1

Lab Sample ID: MB 550-257482/1-A
Matrix: Water
Analysis Batch: 257837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/02/21 06:52	11/04/21 15:49	1
Boron	0.0562	B1	0.050	0.0025	mg/L		11/02/21 06:52	11/04/21 15:49	1
Calcium	ND	E8	2.0	0.013	mg/L		11/02/21 06:52	11/04/21 15:49	1
Iron	ND	E8	0.10	0.010	mg/L		11/02/21 06:52	11/04/21 15:49	1
Magnesium	ND	E8	2.0	0.044	mg/L		11/02/21 06:52	11/04/21 15:49	1
Manganese	ND	E8	0.010	0.00019	mg/L		11/02/21 06:52	11/04/21 15:49	1
Potassium	ND	E8	0.50	0.17	mg/L		11/02/21 06:52	11/04/21 15:49	1
Sodium	0.184	E4	0.50	0.031	mg/L		11/02/21 06:52	11/04/21 15:49	1

Lab Sample ID: MB 550-257482/1-A
Matrix: Water
Analysis Batch: 257889

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257482

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00271	E4	0.050	0.0025	mg/L		11/02/21 06:52	11/05/21 14:12	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-257482/2-A
Matrix: Water
Analysis Batch: 257737

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.962		mg/L		96	85 - 115
Iron	1.00	0.989		mg/L		99	85 - 115
Magnesium	21.0	20.7		mg/L		99	85 - 115
Manganese	1.00	0.976		mg/L		98	85 - 115
Potassium	20.0	19.2		mg/L		96	85 - 115
Sodium	20.0	20.0		mg/L		100	85 - 115

Lab Sample ID: LCS 550-257482/2-A
Matrix: Water
Analysis Batch: 257837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.00		mg/L		100	85 - 115
Boron	1.00	1.07		mg/L		107	85 - 115
Calcium	21.0	21.4		mg/L		102	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.7		mg/L		103	85 - 115
Manganese	1.00	1.02		mg/L		102	85 - 115
Potassium	20.0	20.1		mg/L		101	85 - 115
Sodium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCS 550-257482/2-A
Matrix: Water
Analysis Batch: 257889

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-257482/3-A
Matrix: Water
Analysis Batch: 257737

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.970		mg/L		97	85 - 115	1	20
Iron	1.00	1.00		mg/L		100	85 - 115	1	20
Magnesium	21.0	20.8		mg/L		99	85 - 115	0	20
Manganese	1.00	0.971		mg/L		97	85 - 115	0	20
Potassium	20.0	19.4		mg/L		97	85 - 115	1	20
Sodium	20.0	20.1		mg/L		100	85 - 115	0	20

Lab Sample ID: LCSD 550-257482/3-A
Matrix: Water
Analysis Batch: 257837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.04		mg/L		104	85 - 115	3	20
Boron	1.00	1.07		mg/L		107	85 - 115	0	20
Calcium	21.0	22.1		mg/L		105	85 - 115	3	20
Iron	1.00	1.08		mg/L		108	85 - 115	5	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-257482/3-A
Matrix: Water
Analysis Batch: 257837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257482

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium			21.0	22.3		mg/L		106	85 - 115	3	20
Manganese			1.00	1.02		mg/L		102	85 - 115	0	20
Potassium			20.0	20.7		mg/L		104	85 - 115	3	20
Sodium			20.0	21.0		mg/L		105	85 - 115	3	20

Lab Sample ID: LCSD 550-257482/3-A
Matrix: Water
Analysis Batch: 257889

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257482

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	1.00		mg/L		100	85 - 115	0	20

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 257737

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND	E8	1.00	1.01		mg/L		101	70 - 130

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 257837

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.23	B1	1.00	1.29		mg/L		106	70 - 130
Calcium	350	M3	21.0	346	M3	mg/L		-21	70 - 130

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257737

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	0.984		mg/L		98	70 - 130	3	20

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257837

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257482

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.23	B1	1.00	1.30		mg/L		107	70 - 130	1	20
Calcium	350	M3	21.0	355	M3	mg/L		20	70 - 130	2	20

Lab Sample ID: MB 550-257521/1-A
Matrix: Water
Analysis Batch: 257739

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257521

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		11/02/21 11:04	11/03/21 22:29	1
Manganese	0.000400	E4	0.010	0.00019	mg/L		11/02/21 11:04	11/03/21 22:29	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-257521/2-A
Matrix: Water
Analysis Batch: 257739

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257521

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.986		mg/L		99	85 - 115
Manganese	1.00	0.962		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-257521/3-A
Matrix: Water
Analysis Batch: 257739

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257521

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	0.992		mg/L		99	85 - 115	1	20
Manganese	1.00	0.961		mg/L		96	85 - 115	0	20

Lab Sample ID: MB 550-257525/1-A
Matrix: Water
Analysis Batch: 257738

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257525

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		11/02/21 11:10	11/03/21 21:24	1
Manganese	0.000630	E4	0.010	0.00019	mg/L		11/02/21 11:10	11/03/21 21:24	1

Lab Sample ID: LCS 550-257525/2-A
Matrix: Water
Analysis Batch: 257738

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257525

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.989		mg/L		99	85 - 115
Manganese	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-257525/3-A
Matrix: Water
Analysis Batch: 257738

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257525

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.01		mg/L		101	85 - 115	2	20
Manganese	1.00	1.00		mg/L		100	85 - 115	0	20

Lab Sample ID: MB 280-556271/1-A
Matrix: Water
Analysis Batch: 556707

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556271

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/07/21 08:44	11/09/21 02:26	1

Lab Sample ID: LCS 280-556271/2-A
Matrix: Water
Analysis Batch: 556707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556271

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.01		mg/L		101	90 - 112

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-173411-1 MS
Matrix: Water
Analysis Batch: 556707

Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA
Prep Batch: 556271

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.23	M1	1.00	1.33		mg/L		110	70 - 130

Lab Sample ID: 550-173411-1 MSD
Matrix: Water
Analysis Batch: 556707

Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA
Prep Batch: 556271

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.23	M1	1.00	1.37		mg/L		114	70 - 130	3	20

Lab Sample ID: 550-173411-3 MS
Matrix: Water
Analysis Batch: 556707

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 556271

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.23	M1	1.00	1.28		mg/L		105	70 - 130

Lab Sample ID: 550-173411-3 MSD
Matrix: Water
Analysis Batch: 556707

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 556271

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.23	M1	1.00	1.33		mg/L		111	70 - 130	4	20

Lab Sample ID: MB 280-556632/1-A
Matrix: Water
Analysis Batch: 557055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:53	1

Lab Sample ID: LCS 280-556632/2-A
Matrix: Water
Analysis Batch: 557055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556632

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	0.945		mg/L		94	90 - 112

Lab Sample ID: 550-173411-49 MS
Matrix: Water
Analysis Batch: 557055

Client Sample ID: CH-CCR-FD04-1021
Prep Type: Total/NA
Prep Batch: 556632

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.26		1.00	1.29		mg/L		103	70 - 130

Lab Sample ID: 550-173411-49 MSD
Matrix: Water
Analysis Batch: 557055

Client Sample ID: CH-CCR-FD04-1021
Prep Type: Total/NA
Prep Batch: 556632

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.26		1.00	1.29		mg/L		104	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-173411-4 MS
Matrix: Water
Analysis Batch: 257739

Client Sample ID: CH-CCR-M53-1021
Prep Type: Dissolved
Prep Batch: 257521

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.037	E4	1.00	1.08		mg/L		104	70 - 130
Manganese	5.0	M3	1.00	5.56	M3	mg/L		58	70 - 130

Lab Sample ID: 550-173411-4 MSD
Matrix: Water
Analysis Batch: 257739

Client Sample ID: CH-CCR-M53-1021
Prep Type: Dissolved
Prep Batch: 257521

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.037	E4	1.00	1.05		mg/L		101	70 - 130	3	20
Manganese	5.0	M3	1.00	5.57	M3	mg/L		58	70 - 130	0	20

Lab Sample ID: 550-173411-44 MS
Matrix: Water
Analysis Batch: 257738

Client Sample ID: CH-CCR-W309-1021
Prep Type: Dissolved
Prep Batch: 257525

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.040	E4	1.00	1.08		mg/L		104	70 - 130
Manganese	0.41		1.00	1.33		mg/L		92	70 - 130

Lab Sample ID: 550-173411-44 MSD
Matrix: Water
Analysis Batch: 257738

Client Sample ID: CH-CCR-W309-1021
Prep Type: Dissolved
Prep Batch: 257525

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.040	E4	1.00	1.09		mg/L		105	70 - 130	1	20
Manganese	0.41		1.00	1.34		mg/L		93	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-257490/1-A
Matrix: Water
Analysis Batch: 257958

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257490

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000530	E4	0.0010	0.000043	mg/L		11/02/21 08:35	11/04/21 21:02	1
Barium	ND	E8	0.00050	0.00026	mg/L		11/02/21 08:35	11/04/21 21:02	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/02/21 08:35	11/04/21 21:02	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/02/21 08:35	11/04/21 21:02	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/02/21 08:35	11/04/21 21:02	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/21 08:35	11/04/21 21:02	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		11/02/21 08:35	11/04/21 21:02	1

Lab Sample ID: MB 550-257490/1-A
Matrix: Water
Analysis Batch: 258317

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257490

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		11/02/21 08:35	11/10/21 19:05	1
Thallium	0.0000160	E4	0.00010	0.000013	mg/L		11/02/21 08:35	11/10/21 19:05	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-257490/1-A
Matrix: Water
Analysis Batch: 258494

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257490

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	ND	E8	0.00050	0.000074	mg/L		11/02/21 08:35	11/12/21 13:35	1

Lab Sample ID: LCS 550-257490/2-A
Matrix: Water
Analysis Batch: 257958

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.106		mg/L		106	85 - 115
Barium	0.100	0.115		mg/L		115	85 - 115
Cadmium	0.100	0.107		mg/L		107	85 - 115
Chromium	0.100	0.102		mg/L		102	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.100		mg/L		100	85 - 115
Molybdenum	0.100	0.108		mg/L		108	85 - 115

Lab Sample ID: LCS 550-257490/2-A
Matrix: Water
Analysis Batch: 258317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.103		mg/L		103	85 - 115
Thallium	0.100	0.111		mg/L		111	85 - 115

Lab Sample ID: LCS 550-257490/2-A
Matrix: Water
Analysis Batch: 258494

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.100	0.100		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-257490/3-A
Matrix: Water
Analysis Batch: 257958

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.100		mg/L		100	85 - 115	5	20
Barium	0.100	0.109		mg/L		109	85 - 115	5	20
Cadmium	0.100	0.103		mg/L		103	85 - 115	4	20
Chromium	0.100	0.103		mg/L		103	85 - 115	1	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	2	20
Lead	0.100	0.0979		mg/L		98	85 - 115	3	20
Molybdenum	0.100	0.103		mg/L		103	85 - 115	5	20

Lab Sample ID: LCSD 550-257490/3-A
Matrix: Water
Analysis Batch: 258317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.103		mg/L		103	85 - 115	0	20
Thallium	0.100	0.111		mg/L		111	85 - 115	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: LCSD 550-257490/3-A
Matrix: Water
Analysis Batch: 258494

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257490

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium			0.100	0.0976		mg/L		98	85 - 115	3	20

Lab Sample ID: 550-173411-3 MS
Matrix: Water
Analysis Batch: 257958

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00018	E4 D1	0.100	0.106	D1	mg/L		106	70 - 130
Barium	0.010	D1	0.100	0.126	D1	mg/L		116	70 - 130
Cadmium	0.0012	D1	0.100	0.104	D1	mg/L		103	70 - 130
Chromium	0.0018	E4 D1	0.100	0.103	D1	mg/L		101	70 - 130
Cobalt	0.012	D1	0.100	0.110	D1	mg/L		98	70 - 130
Lead	0.00048	E4 D1	0.100	0.0956	D1	mg/L		95	70 - 130
Molybdenum	0.039	D1	0.100	0.148	D1	mg/L		109	70 - 130

Lab Sample ID: 550-173411-3 MS
Matrix: Water
Analysis Batch: 258317

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0013	D1	0.100	0.107	D1	mg/L		105	70 - 130
Thallium	0.00058	D1	0.100	0.104	D1	mg/L		103	70 - 130

Lab Sample ID: 550-173411-3 MS
Matrix: Water
Analysis Batch: 258494

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.0011	D1	0.100	0.117		mg/L		116	70 - 130

Lab Sample ID: 550-173411-3 MSD
Matrix: Water
Analysis Batch: 257958

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00018	E4 D1	0.100	0.109	D1	mg/L		109	70 - 130	2	20
Barium	0.010	D1	0.100	0.127	D1	mg/L		117	70 - 130	0	20
Cadmium	0.0012	D1	0.100	0.105	D1	mg/L		104	70 - 130	1	20
Chromium	0.0018	E4 D1	0.100	0.108	D1	mg/L		106	70 - 130	5	20
Cobalt	0.012	D1	0.100	0.115	D1	mg/L		104	70 - 130	5	20
Lead	0.00048	E4 D1	0.100	0.0967	D1	mg/L		96	70 - 130	1	20
Molybdenum	0.039	D1	0.100	0.150	D1	mg/L		110	70 - 130	1	20

Lab Sample ID: 550-173411-3 MSD
Matrix: Water
Analysis Batch: 258317

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0013	D1	0.100	0.103	D1	mg/L		101	70 - 130	4	20
Thallium	0.00058	D1	0.100	0.0969	D1	mg/L		96	70 - 130	7	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-173411-3 MSD
Matrix: Water
Analysis Batch: 258494

Client Sample ID: CH-CCR-M53-1021
Prep Type: Total/NA
Prep Batch: 257490

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.0011	D1	0.100	0.117		mg/L		116	70 - 130	0	20

Lab Sample ID: MB 550-257496/1-A
Matrix: Water
Analysis Batch: 257957

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257496

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000650	E4	0.0010	0.000043	mg/L		11/02/21 08:42	11/04/21 20:08	1
Barium	ND	E8	0.00050	0.00026	mg/L		11/02/21 08:42	11/04/21 20:08	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/02/21 08:42	11/04/21 20:08	1
Cobalt	0.000108	E4	0.00050	0.000063	mg/L		11/02/21 08:42	11/04/21 20:08	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/21 08:42	11/04/21 20:08	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		11/02/21 08:42	11/04/21 20:08	1

Lab Sample ID: MB 550-257496/1-A
Matrix: Water
Analysis Batch: 258316

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257496

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000329	E4	0.00050	0.00025	mg/L		11/02/21 08:42	11/10/21 18:11	1

Lab Sample ID: MB 550-257496/1-A
Matrix: Water
Analysis Batch: 258493

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257496

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.00498	B1	0.0010	0.00043	mg/L		11/02/21 08:42	11/12/21 12:38	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/02/21 08:42	11/12/21 12:38	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/02/21 08:42	11/12/21 12:38	1

Lab Sample ID: LCS 550-257496/2-A
Matrix: Water
Analysis Batch: 257957

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.102		mg/L		102	85 - 115
Barium	0.100	0.113		mg/L		113	85 - 115
Cadmium	0.100	0.105		mg/L		105	85 - 115
Cobalt	0.100	0.101		mg/L		101	85 - 115
Lead	0.100	0.0986		mg/L		99	85 - 115
Molybdenum	0.100	0.107		mg/L		107	85 - 115

Lab Sample ID: LCS 550-257496/2-A
Matrix: Water
Analysis Batch: 258316

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.106		mg/L		106	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-257496/2-A
Matrix: Water
Analysis Batch: 258493

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257496

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chromium			0.100	0.0962		mg/L		96	85 - 115		
Selenium			0.100	0.0991		mg/L		99	85 - 115		
Thallium			0.100	0.0961		mg/L		96	85 - 115		

Lab Sample ID: LCSD 550-257496/3-A
Matrix: Water
Analysis Batch: 257957

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257496

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony			0.100	0.102		mg/L		102	85 - 115	1	20
Barium			0.100	0.110		mg/L		110	85 - 115	3	20
Cadmium			0.100	0.104		mg/L		104	85 - 115	1	20
Cobalt			0.100	0.104		mg/L		104	85 - 115	3	20
Lead			0.100	0.0986		mg/L		99	85 - 115	0	20
Molybdenum			0.100	0.103		mg/L		103	85 - 115	3	20

Lab Sample ID: LCSD 550-257496/3-A
Matrix: Water
Analysis Batch: 258316

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257496

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			0.100	0.106		mg/L		106	85 - 115	0	20

Lab Sample ID: LCSD 550-257496/3-A
Matrix: Water
Analysis Batch: 258493

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257496

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium			0.100	0.0970		mg/L		97	85 - 115	1	20
Selenium			0.100	0.0985		mg/L		99	85 - 115	1	20
Thallium			0.100	0.0933		mg/L		93	85 - 115	3	20

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 257957

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Antimony	0.000070	E4	0.100	0.104		mg/L		104	70 - 130		
Barium	0.031		0.100	0.144		mg/L		113	70 - 130		
Cadmium	0.000039	E4	0.100	0.0992		mg/L		99	70 - 130		
Cobalt	0.00018	E4	0.100	0.100		mg/L		100	70 - 130		
Lead	ND	E8	0.100	0.0954		mg/L		95	70 - 130		
Molybdenum	0.0025		0.100	0.111		mg/L		109	70 - 130		

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 258316

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.0052		0.100	0.112		mg/L		107	70 - 130		

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 258493

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	0.00063		0.100	0.103		mg/L		103	70 - 130
Thallium	0.00040		0.100	0.0928		mg/L		92	70 - 130

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257957

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000070	E4	0.100	0.102		mg/L		102	70 - 130	2	20
Barium	0.031		0.100	0.141		mg/L		110	70 - 130	2	20
Cadmium	0.000039	E4	0.100	0.0990		mg/L		99	70 - 130	0	20
Cobalt	0.00018	E4	0.100	0.0955		mg/L		95	70 - 130	5	20
Lead	ND	E8	0.100	0.0952		mg/L		95	70 - 130	0	20
Molybdenum	0.0025		0.100	0.108		mg/L		105	70 - 130	3	20

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 258316

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0052		0.100	0.111		mg/L		106	70 - 130	1	20

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 258493

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257496

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Selenium	0.00063		0.100	0.105		mg/L		104	70 - 130	1	20
Thallium	0.00040		0.100	0.0976		mg/L		97	70 - 130	5	20

Lab Sample ID: MB 550-257498/1-A
Matrix: Water
Analysis Batch: 257701

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		11/02/21 09:40	11/03/21 17:59	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/02/21 09:40	11/03/21 17:59	1

Lab Sample ID: LCS 550-257498/2-A
Matrix: Water
Analysis Batch: 257701

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0959		mg/L		96	85 - 115
Cobalt	0.100	0.100		mg/L		100	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-257498/3-A
Matrix: Water
Analysis Batch: 257701

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257498

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.0961		mg/L		96	85 - 115	0	20
Cobalt	0.100	0.0982		mg/L		98	85 - 115	2	20

Lab Sample ID: MB 550-257499/1-A
Matrix: Water
Analysis Batch: 257704

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257499

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.000367	E4	0.00050	0.00025	mg/L		11/02/21 09:47	11/03/21 18:59	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/02/21 09:47	11/03/21 18:59	1

Lab Sample ID: LCS 550-257499/2-A
Matrix: Water
Analysis Batch: 257704

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257499

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0953		mg/L		95	85 - 115
Cobalt	0.100	0.0920		mg/L		92	85 - 115

Lab Sample ID: LCSD 550-257499/3-A
Matrix: Water
Analysis Batch: 257704

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257499

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.0977		mg/L		98	85 - 115	2	20
Cobalt	0.100	0.0950		mg/L		95	85 - 115	3	20

Lab Sample ID: MB 550-258534/1-A
Matrix: Water
Analysis Batch: 258639

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 258534

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		11/12/21 20:00	11/15/21 16:16	1

Lab Sample ID: LCS 550-258534/2-A
Matrix: Water
Analysis Batch: 258639

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 258534

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.100	0.0957		mg/L		96	85 - 115

Lab Sample ID: LCSD 550-258534/3-A
Matrix: Water
Analysis Batch: 258639

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 258534

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.100	0.0988		mg/L		99	85 - 115	3	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173411-47 MS
Matrix: Water
Analysis Batch: 258639

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 258534

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.0046		0.100	0.0994		mg/L		95	70 - 130

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 258639

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 258534

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	0.0046		0.100	0.0979		mg/L		93	70 - 130	1	20

Lab Sample ID: 550-173411-2 MS
Matrix: Water
Analysis Batch: 257701

Client Sample ID: CH-CCR-M52-1021
Prep Type: Dissolved
Prep Batch: 257498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00098		0.100	0.102		mg/L		101	70 - 130
Cobalt	0.063		0.100	0.158		mg/L		95	70 - 130

Lab Sample ID: 550-173411-2 MSD
Matrix: Water
Analysis Batch: 257701

Client Sample ID: CH-CCR-M52-1021
Prep Type: Dissolved
Prep Batch: 257498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.00098		0.100	0.0994		mg/L		98	70 - 130	2	20
Cobalt	0.063		0.100	0.150		mg/L		87	70 - 130	5	20

Lab Sample ID: 550-173411-42 MS
Matrix: Water
Analysis Batch: 257954

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved
Prep Batch: 257499

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.0021		0.100	0.101		mg/L		99	70 - 130

Lab Sample ID: 550-173411-42 MS
Matrix: Water
Analysis Batch: 258065

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved
Prep Batch: 257499

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0019		0.100	0.115		mg/L		113	70 - 130

Lab Sample ID: 550-173411-42 MSD
Matrix: Water
Analysis Batch: 257954

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved
Prep Batch: 257499

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.0021		0.100	0.100		mg/L		98	70 - 130	1	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173411-42 MSD
Matrix: Water
Analysis Batch: 258065

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved
Prep Batch: 257499

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0019		0.100	0.131		mg/L		129	70 - 130	13	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-257542/1-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257542

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:15	11/02/21 21:34	1

Lab Sample ID: LCS 550-257542/2-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00468		mg/L		94	85 - 115

Lab Sample ID: LCSD 550-257542/3-A
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00452		mg/L		90	85 - 115	3	20

Lab Sample ID: 550-173423-E-1-A MS
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00527		mg/L		105	70 - 130

Lab Sample ID: 550-173423-E-1-B MSD
Matrix: Water
Analysis Batch: 257651

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 257542

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00508		mg/L		102	70 - 130	4	20

Lab Sample ID: MB 550-257545/1-A
Matrix: Water
Analysis Batch: 257652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:36	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 550-257545/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257652 — **Prep Batch: 257545**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00432		mg/L		86	85 - 115

Lab Sample ID: LCSD 550-257545/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257652 — **Prep Batch: 257545**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00429		mg/L		86	85 - 115	1	20

Lab Sample ID: 550-173429-E-3-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257652 — **Prep Batch: 257545**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00544		mg/L		109	70 - 130

Lab Sample ID: 550-173429-E-3-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257652 — **Prep Batch: 257545**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00513		mg/L		103	70 - 130	6	20

Lab Sample ID: MB 550-257656/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257687 — **Prep Batch: 257656**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/03/21 15:39	11/03/21 19:27	1

Lab Sample ID: LCS 550-257656/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257687 — **Prep Batch: 257656**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00427		mg/L		85	85 - 115

Lab Sample ID: LCSD 550-257656/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257687 — **Prep Batch: 257656**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00429		mg/L		86	85 - 115	1	20

Lab Sample ID: 550-173411-47 MS — **Client Sample ID: CH-CCR-W317-1021**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 257687 — **Prep Batch: 257656**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00547		mg/L		109	70 - 130

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: 550-173411-47 MSD
Matrix: Water
Analysis Batch: 257687

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA
Prep Batch: 257656

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00538		mg/L		108	70 - 130	2	20

Lab Sample ID: MB 550-257778/1-A
Matrix: Water
Analysis Batch: 257819

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257778

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/04/21 15:49	11/04/21 18:41	1

Lab Sample ID: LCS 550-257778/2-A
Matrix: Water
Analysis Batch: 257819

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257778

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00446		mg/L		89	85 - 115

Lab Sample ID: LCSD 550-257778/3-A
Matrix: Water
Analysis Batch: 257819

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257778

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00437		mg/L		87	85 - 115	2	20

Lab Sample ID: 550-173582-E-1-B MS
Matrix: Water
Analysis Batch: 257819

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 257778

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00457		mg/L		91	70 - 130

Lab Sample ID: 550-173582-E-1-C MSD
Matrix: Water
Analysis Batch: 257819

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 257778

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00456		mg/L		91	70 - 130	0	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-258102/21
Matrix: Water
Analysis Batch: 258102

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 06:34	1

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: MB 550-258102/60
Matrix: Water
Analysis Batch: 258102
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/09/21 07:32	1

Lab Sample ID: LCS 550-258102/22
Matrix: Water
Analysis Batch: 258102
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	0.989		mg/L		99	90 - 110

Lab Sample ID: LCS 550-258102/61
Matrix: Water
Analysis Batch: 258102
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.00	1.01		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-258102/23
Matrix: Water
Analysis Batch: 258102
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	0.992		mg/L		99	90 - 110	0	20

Lab Sample ID: LCSD 550-258102/62
Matrix: Water
Analysis Batch: 258102
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-173411-1 MS
Matrix: Water
Analysis Batch: 258102
Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	1.08		mg/L		108	90 - 110

Lab Sample ID: 550-173411-1 MSD
Matrix: Water
Analysis Batch: 258102
Client Sample ID: CH-CCR-M52-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	1.08		mg/L		108	90 - 110	0	20

Lab Sample ID: 550-173411-19 MS
Matrix: Water
Analysis Batch: 258102
Client Sample ID: CH-CCR-M77-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	0.956		mg/L		96	90 - 110

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-173411-19 MSD
Matrix: Water
Analysis Batch: 258102

Client Sample ID: CH-CCR-M77-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	0.983		mg/L		98	90 - 110	3	20

Lab Sample ID: 550-173411-39 MS
Matrix: Water
Analysis Batch: 258102

Client Sample ID: CH-CCR-W307R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.058		1.00	1.09		mg/L		103	90 - 110

Lab Sample ID: 550-173411-39 MSD
Matrix: Water
Analysis Batch: 258102

Client Sample ID: CH-CCR-W307R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.058		1.00	1.10		mg/L		104	90 - 110	1	20

Lab Sample ID: 550-173411-61 MS
Matrix: Water
Analysis Batch: 258102

Client Sample ID: CH-CCR-TWX4-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	0.44		1.00	1.50		mg/L		106	90 - 110

Lab Sample ID: 550-173411-61 MSD
Matrix: Water
Analysis Batch: 258102

Client Sample ID: CH-CCR-TWX4-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.44		1.00	1.49		mg/L		104	90 - 110	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-258292/34
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1

Lab Sample ID: MB 550-258292/7
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-258292/7
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1

Lab Sample ID: LCS 550-258292/33
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCS 550-258292/6
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-258292/20
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110	0	20

Lab Sample ID: LCSD 550-258292/45
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110	1	20

Lab Sample ID: 550-173411-51 DU
Matrix: Water
Analysis Batch: 258292

Client Sample ID: CH-CCR-BAP-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	150		146		mg/L		0.4	20
Bicarbonate Alkalinity as CaCO3	150		146		mg/L		0.4	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Lab Sample ID: 550-173411-71 DU
Matrix: Water
Analysis Batch: 258292

Client Sample ID: CH-CCR-TWX9-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	90		92.0		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	90		92.0		mg/L		2	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-173411-71 DU
Matrix: Water
Analysis Batch: 258292

Client Sample ID: CH-CCR-TWX9-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-257478/1
Matrix: Water
Analysis Batch: 257478

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/02/21 06:30	1

Lab Sample ID: LCS 550-257478/2
Matrix: Water
Analysis Batch: 257478

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	952		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-257478/3
Matrix: Water
Analysis Batch: 257478

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	988		mg/L		99	90 - 110	4	10

Lab Sample ID: 550-173411-5 DU
Matrix: Water
Analysis Batch: 257478

Client Sample ID: CH-CCR-M55-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	11000	D2	10100	D2	mg/L		4	10

Lab Sample ID: 550-173411-41 DU
Matrix: Water
Analysis Batch: 257478

Client Sample ID: CH-CCR-W308-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7900	D2	7820	D2	mg/L		0.4	10

Lab Sample ID: MB 550-257479/1
Matrix: Water
Analysis Batch: 257479

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/02/21 06:33	1

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCS 550-257479/2
Matrix: Water
Analysis Batch: 257479

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	994		mg/L		99	90 - 110		

Lab Sample ID: LCSD 550-257479/3
Matrix: Water
Analysis Batch: 257479

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-173411-11 DU
Matrix: Water
Analysis Batch: 257479

Client Sample ID: CH-CCR-M71-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	7300	D2		7550	D2	mg/L				3	10

Lab Sample ID: 550-173411-61 DU
Matrix: Water
Analysis Batch: 257479

Client Sample ID: CH-CCR-TWX4-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6600	D2		6860	D2	mg/L				3	10

Lab Sample ID: MB 550-257698/1
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/04/21 08:13	1

Lab Sample ID: LCS 550-257698/2
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-257698/3
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	980		mg/L		98	90 - 110	3	10

Lab Sample ID: 550-173411-47 DU
Matrix: Water
Analysis Batch: 257698

Client Sample ID: CH-CCR-W317-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3600	H3 D2		3740	D2	mg/L				3	10

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-257824/1
Matrix: Water
Analysis Batch: 257824

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/05/21 08:15	1

Lab Sample ID: LCS 550-257824/2
Matrix: Water
Analysis Batch: 257824

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1000		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-257824/3
Matrix: Water
Analysis Batch: 257824

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110	2	10

Lab Sample ID: 550-173530-B-2 DU
Matrix: Water
Analysis Batch: 257824

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	6300	D2	6410	D2	mg/L		2	10

Lab Sample ID: MB 550-258146/1
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/10/21 06:13	1

Lab Sample ID: LCS 550-258146/2
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	1020		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-258146/3
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	976		mg/L		98	90 - 110	5	10

Lab Sample ID: 550-173427-A-1 DU
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2700	D2	2930	D2	mg/L		7	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-258148/12
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258148/23
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258148/34
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258148/45
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258148/51
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: 550-173272-A-1 DU
Matrix: Water
Analysis Batch: 258148

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.3	H5	5.3	H5	SU		0.4	5
Temperature	8.1	H5	8.6	H5	Degrees C		6	

Lab Sample ID: 550-173411-7 DU
Matrix: Water
Analysis Batch: 258148

Client Sample ID: CH-CCR-M69-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	H5	7.4	H5	SU		0.3	5
Temperature	8.8	H5	9.1	H5	Degrees C		3	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-173411-25 DU
Matrix: Water
Analysis Batch: 258148

Client Sample ID: CH-CCR-M79-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.3	H5		7.4	H5	SU				0.3	5
Temperature	9.8	H5		10.1	H5	Degrees C				3	

Lab Sample ID: 550-173411-43 DU
Matrix: Water
Analysis Batch: 258148

Client Sample ID: CH-CCR-W309-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0.3	5
Temperature	11.6	H5		11.9	H5	Degrees C				3	

Lab Sample ID: LCSSRM 550-258399/1
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.9	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/13
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.6	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/25
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.4	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/37
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		100.7	98.5 - 101.5		

Lab Sample ID: 550-173411-61 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: CH-CCR-TWX4-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.5	H5	SU				0.1	5
Temperature	10.5	H5		10.8	H5	Degrees C				3	

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: 550-173603-A-1 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.6	H5	SU		0.1	5
Temperature	11.5	H5	11.8	H5	Degrees C		3	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-258068/35
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			11/06/21 19:15	1

Lab Sample ID: MB 550-258068/5
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			11/06/21 13:16	1

Lab Sample ID: LCS 550-258068/36
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	19.7		mg/L		99	90 - 110
Total Organic Carbon - Duplicates	20.0	19.7		mg/L		99	90 - 110
Total Organic Carbon - Quad	20.0	19.7		mg/L		99	90 - 110

Lab Sample ID: LCS 550-258068/6
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	19.7		mg/L		98	90 - 110
Total Organic Carbon - Duplicates	20.0	19.7		mg/L		98	90 - 110
Total Organic Carbon - Quad	20.0	19.7		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-258068/37
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.7		mg/L		98	90 - 110	0	20
Total Organic Carbon - Duplicates	20.0	19.7		mg/L		98	90 - 110	0	20
Total Organic Carbon - Quad	20.0	19.7		mg/L		98	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCSD 550-258068/7
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	19.9		mg/L		99	90 - 110	1	20
Total Organic Carbon - Duplicates			20.0	19.9		mg/L		99	90 - 110	1	20
Total Organic Carbon - Quad			20.0	19.9		mg/L		99	90 - 110	1	20

Lab Sample ID: 320-81004-I-2 MS ^4
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	170	D2	80.0	245	D2	mg/L		98	90 - 110
Total Organic Carbon - Duplicates	170	D2	80.0	245	D2	mg/L		98	90 - 110
Total Organic Carbon - Quad	170	D2	80.0	245	D2	mg/L		98	90 - 110

Lab Sample ID: 320-81004-I-2 MSD ^4
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	170	D2	80.0	240	D2	mg/L		92	90 - 110	2	20
Total Organic Carbon - Duplicates	170	D2	80.0	240	D2	mg/L		92	90 - 110	2	20
Total Organic Carbon - Quad	170	D2	80.0	240	D2	mg/L		92	90 - 110	2	20

Lab Sample ID: 550-173405-A-1 MS ^4
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	10	D1	80.0	91.3	D1	mg/L		101	90 - 110
Total Organic Carbon - Duplicates	10	D1	80.0	91.3	D1	mg/L		101	90 - 110
Total Organic Carbon - Quad	10	D1	80.0	91.3	D1	mg/L		101	90 - 110

Lab Sample ID: 550-173405-A-1 MSD ^4
Matrix: Water
Analysis Batch: 258068

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	10	D1	80.0	89.2	D1	mg/L		99	90 - 110	2	20
Total Organic Carbon - Duplicates	10	D1	80.0	89.2	D1	mg/L		99	90 - 110	2	20
Total Organic Carbon - Quad	10	D1	80.0	89.2	D1	mg/L		99	90 - 110	2	20

Lab Sample ID: MB 550-258433/22
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.322	E4	0.50	0.26	mg/L			11/11/21 20:03	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: LCS 550-258433/23
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon			20.0	18.3		mg/L		92	90 - 110		
Total Organic Carbon - Duplicates			20.0	18.3		mg/L		92	90 - 110		
Total Organic Carbon - Quad			20.0	18.3		mg/L		92	90 - 110		

Lab Sample ID: LCSD 550-258433/24
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	18.8		mg/L		94	90 - 110	2	20
Total Organic Carbon - Duplicates			20.0	18.8		mg/L		94	90 - 110	2	20
Total Organic Carbon - Quad			20.0	18.8		mg/L		94	90 - 110	2	20

Lab Sample ID: 550-173366-B-4 MS ^10
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	59	D2	200	245	D2	mg/L		93	90 - 110		
Total Organic Carbon - Duplicates	59	D2	200	245	D2	mg/L		93	90 - 110		
Total Organic Carbon - Quad	59	D2	200	245	D2	mg/L		93	90 - 110		

Lab Sample ID: 550-173366-B-4 MSD ^10
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	59	D2	200	253	D2	mg/L		97	90 - 110	3	20
Total Organic Carbon - Duplicates	59	D2	200	253	D2	mg/L		97	90 - 110	3	20
Total Organic Carbon - Quad	59	D2	200	253	D2	mg/L		97	90 - 110	3	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-258332/34
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-258332/5
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			11/10/21 14:25	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			11/10/21 14:25	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			11/10/21 14:25	1

Lab Sample ID: LCS 550-258332/35
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.9		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.9		mg/L		94	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.9		mg/L		94	90 - 110

Lab Sample ID: LCS 550-258332/6
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.6		mg/L		98	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-258332/36
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.2		mg/L		96	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	20.0	19.2		mg/L		96	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	19.2		mg/L		96	90 - 110	2	20

Lab Sample ID: LCSD 550-258332/7
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.4		mg/L		97	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.4		mg/L		97	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	19.4		mg/L		97	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-173411-2 MS
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-M52-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.5	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Duplicate	1.5	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Quad	1.5	M2	20.0	18.5	M2	mg/L		85	90 - 110

Lab Sample ID: 550-173411-2 MSD
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-M52-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.5	M2	20.0	20.0		mg/L		92	90 - 110	8	20
Dissolved Organic Carbon - Duplicate	1.5	M2	20.0	20.0		mg/L		92	90 - 110	8	20
Dissolved Organic Carbon - Quad	1.5	M2	20.0	20.0		mg/L		92	90 - 110	8	20

Lab Sample ID: 550-173411-42 MS
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.2	R13 M2	20.0	18.3	M2 R13	mg/L		86	90 - 110
Dissolved Organic Carbon - Duplicate	1.2	R13 M2	20.0	18.3	M2 R13	mg/L		86	90 - 110
Dissolved Organic Carbon - Quad	1.2	R13 M2	20.0	18.3	M2 R13	mg/L		86	90 - 110

Lab Sample ID: 550-173411-42 MSD
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-W308-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2	R13 M2	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20
Dissolved Organic Carbon - Duplicate	1.2	R13 M2	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20
Dissolved Organic Carbon - Quad	1.2	R13 M2	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20

Lab Sample ID: MB 550-258432/5
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1
Dissolved Organic Carbon - Duplicate	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1
Dissolved Organic Carbon - Quad	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 550-258432/6
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon			20.0	18.7		mg/L		93	90 - 110		
Dissolved Organic Carbon - Duplicate			20.0	18.7		mg/L		93	90 - 110		
Dissolved Organic Carbon - Quad			20.0	18.7		mg/L		93	90 - 110		

Lab Sample ID: LCSD 550-258432/7
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon			20.0	19.2		mg/L		96	90 - 110	3	20
Dissolved Organic Carbon - Duplicate			20.0	19.2		mg/L		96	90 - 110	3	20
Dissolved Organic Carbon - Quad			20.0	19.2		mg/L		96	90 - 110	3	20

Lab Sample ID: 550-173411-4 MS
Matrix: Water
Analysis Batch: 258432

Client Sample ID: CH-CCR-M53-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Dissolved Organic Carbon	1.2	M2	20.0	19.1		mg/L		90	90 - 110		
Dissolved Organic Carbon - Duplicate	1.2	M2	20.0	19.1		mg/L		90	90 - 110		
Dissolved Organic Carbon - Quad	1.2	M2	20.0	19.1		mg/L		90	90 - 110		

Lab Sample ID: 550-173411-4 MSD
Matrix: Water
Analysis Batch: 258432

Client Sample ID: CH-CCR-M53-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20
Dissolved Organic Carbon - Quad	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

HPLC/IC

Analysis Batch: 257637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	300.0	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	300.0	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	300.0	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	300.0	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	300.0	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	300.0	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	300.0	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	300.0	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	300.0	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	300.0	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	300.0	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	300.0	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	300.0	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	300.0	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	300.0	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	300.0	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	300.0	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	300.0	
MB 550-257637/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-257637/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257637/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	300.0	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	300.0	

Analysis Batch: 257638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	300.0	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	300.0	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	300.0	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	300.0	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	300.0	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	300.0	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	300.0	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	300.0	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	300.0	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	300.0	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	300.0	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	300.0	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	300.0	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	300.0	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	300.0	
MB 550-257638/1056	Method Blank	Total/NA	Water	300.0	
LCS 550-257638/57	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257638/58	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	300.0	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	300.0	

Analysis Batch: 257639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	300.0	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 257639 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	300.0	
MB 550-257639/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257639/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257639/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173440-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173440-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257640

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	300.0	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	300.0	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	300.0	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	300.0	
MB 550-257640/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257640/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257640/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173425-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-173425-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257740

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	300.0	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	300.0	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	300.0	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	300.0	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	300.0	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	300.0	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	300.0	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	300.0	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	300.0	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	300.0	
MB 550-257740/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257740/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257740/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173540-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173540-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257741

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	300.0	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	300.0	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	300.0	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	300.0	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	300.0	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	300.0	
MB 550-257741/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-257741/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257741/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-51 MS	CH-CCR-BAP-1021	Total/NA	Water	300.0	
550-173411-51 MS	CH-CCR-BAP-1021	Total/NA	Water	300.0	
550-173411-51 MSD	CH-CCR-BAP-1021	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 257741 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51 MSD	CH-CCR-BAP-1021	Total/NA	Water	300.0	

Analysis Batch: 257750

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	300.0	
MB 550-257750/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-257750/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257750/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173588-A-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-173588-A-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257921

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	300.0	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	300.0	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	300.0	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	300.0	
MB 550-257921/1032	Method Blank	Total/NA	Water	300.0	
LCS 550-257921/33	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257921/34	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173423-C-1 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-173423-C-1 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-173423-C-1 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-173423-C-1 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257933

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	300.0	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	300.0	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	300.0	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	300.0	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	300.0	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	300.0	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	300.0	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	300.0	
MB 550-257933/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-257933/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257933/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173776-C-2 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-173776-C-2 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 257939

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	300.0	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	300.0	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	300.0	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	300.0	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	300.0	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	300.0	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	300.0	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 257939 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	300.0	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	300.0	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	300.0	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	300.0	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	300.0	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	300.0	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	300.0	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	300.0	
MB 550-257939/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257939/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257939/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	300.0	
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	300.0	

Analysis Batch: 257940

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	300.0	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	300.0	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	300.0	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	300.0	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	300.0	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	300.0	
MB 550-257940/2	Method Blank	Total/NA	Water	300.0	
LCS 550-257940/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-257940/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173862-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173862-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 258039

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	300.0	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	300.0	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	300.0	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	300.0	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	300.0	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	300.0	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	300.0	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	300.0	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	300.0	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	300.0	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	300.0	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	300.0	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	300.0	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	300.0	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	300.0	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	300.0	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	300.0	
MB 550-258039/1030	Method Blank	Total/NA	Water	300.0	
MB 550-258039/1048	Method Blank	Total/NA	Water	300.0	
MB 550-258039/2	Method Blank	Total/NA	Water	300.0	
LCS 550-258039/5	Lab Control Sample	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 258039 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-258039/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-33 MS	CH-CCR-W304-1021	Total/NA	Water	300.0	
550-173411-33 MSD	CH-CCR-W304-1021	Total/NA	Water	300.0	

Analysis Batch: 258040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	300.0	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	300.0	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	300.0	
MB 550-258040/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258040/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258040/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-69 MS	CH-CCR-TWX8-1021	Total/NA	Water	300.0	
550-173411-69 MSD	CH-CCR-TWX8-1021	Total/NA	Water	300.0	

Metals

Prep Batch: 257481

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.7	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.7	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.7	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.7	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.7	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.7	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.7	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.7	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.7	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.7	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.7	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.7	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.7	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.7	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.7	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.7	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.7	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.7	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.7	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.7	
MB 550-257481/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257481/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257481/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	

Prep Batch: 257482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.7	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.7	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 257482 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7	
MB 550-257482/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257482/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257482/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.7	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.7	

Prep Batch: 257490

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.8	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.8	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.8	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.8	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.8	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.8	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.8	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.8	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.8	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.8	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.8	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.8	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.8	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.8	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.8	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.8	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.8	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.8	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.8	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.8	
MB 550-257490/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257490/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257490/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.8	
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.8	

Prep Batch: 257496

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 257496 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.8	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.8	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8	
MB 550-257496/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257496/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257496/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8	

Prep Batch: 257498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-2	CH-CCR-M52-1021	Dissolved	Water	200.8	
550-173411-4	CH-CCR-M53-1021	Dissolved	Water	200.8	
550-173411-6	CH-CCR-M55-1021	Dissolved	Water	200.8	
550-173411-8	CH-CCR-M69-1021	Dissolved	Water	200.8	
550-173411-10	CH-CCR-M70-1021	Dissolved	Water	200.8	
550-173411-12	CH-CCR-M71-1021	Dissolved	Water	200.8	
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	200.8	
550-173411-16	CH-CCR-M73-1021	Dissolved	Water	200.8	
550-173411-18	CH-CCR-M74-1021	Dissolved	Water	200.8	
550-173411-20	CH-CCR-M77-1021	Dissolved	Water	200.8	
550-173411-22	CH-CCR-M78-1021	Dissolved	Water	200.8	
550-173411-24	CH-CCR-FD03-1021	Dissolved	Water	200.8	
550-173411-26	CH-CCR-M79-1021	Dissolved	Water	200.8	
550-173411-28	CH-CCR-W301-1021	Dissolved	Water	200.8	
550-173411-30	CH-CCR-W302-1021	Dissolved	Water	200.8	
550-173411-32	CH-CCR-W303-1021	Dissolved	Water	200.8	
550-173411-34	CH-CCR-W304-1021	Dissolved	Water	200.8	
550-173411-36	CH-CCR-W305-1021	Dissolved	Water	200.8	
550-173411-38	CH-CCR-W306-1021	Dissolved	Water	200.8	
550-173411-40	CH-CCR-W307R-1021	Dissolved	Water	200.8	
MB 550-257498/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257498/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257498/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173411-2 MS	CH-CCR-M52-1021	Dissolved	Water	200.8	
550-173411-2 MSD	CH-CCR-M52-1021	Dissolved	Water	200.8	

Prep Batch: 257499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	200.8	
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 257499 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-46	CH-CCR-W314-1021	Dissolved	Water	200.8	
550-173411-50	CH-CCR-FD04-1021	Dissolved	Water	200.8	
550-173411-52	CH-CCR-BAP-1021	Dissolved	Water	200.8	
550-173411-54	CH-CCR-BAPTD-1021	Dissolved	Water	200.8	
550-173411-56	CH-CCR-Petroglyph-1021	Dissolved	Water	200.8	
550-173411-58	CH-CCR-TanWash-1021	Dissolved	Water	200.8	
550-173411-60	CH-CCR-TWX3-1021	Dissolved	Water	200.8	
550-173411-62	CH-CCR-TWX4-1021	Dissolved	Water	200.8	
550-173411-64	CH-CCR-TWX5-1021	Dissolved	Water	200.8	
550-173411-66	CH-CCR-TWX6-1021	Dissolved	Water	200.8	
550-173411-68	CH-CCR-TWX7-1021	Dissolved	Water	200.8	
550-173411-70	CH-CCR-TWX8-1021	Dissolved	Water	200.8	
550-173411-72	CH-CCR-TWX9-1021	Dissolved	Water	200.8	
550-173411-74	CH-CCR-TWX10-1021	Dissolved	Water	200.8	
MB 550-257499/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257499/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257499/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173411-42 MS	CH-CCR-W308-1021	Dissolved	Water	200.8	
550-173411-42 MSD	CH-CCR-W308-1021	Dissolved	Water	200.8	

Prep Batch: 257521

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-2	CH-CCR-M52-1021	Dissolved	Water	200.7	
550-173411-4	CH-CCR-M53-1021	Dissolved	Water	200.7	
550-173411-6	CH-CCR-M55-1021	Dissolved	Water	200.7	
550-173411-8	CH-CCR-M69-1021	Dissolved	Water	200.7	
550-173411-10	CH-CCR-M70-1021	Dissolved	Water	200.7	
550-173411-12	CH-CCR-M71-1021	Dissolved	Water	200.7	
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	200.7	
550-173411-16	CH-CCR-M73-1021	Dissolved	Water	200.7	
550-173411-18	CH-CCR-M74-1021	Dissolved	Water	200.7	
550-173411-20	CH-CCR-M77-1021	Dissolved	Water	200.7	
550-173411-22	CH-CCR-M78-1021	Dissolved	Water	200.7	
550-173411-24	CH-CCR-FD03-1021	Dissolved	Water	200.7	
550-173411-26	CH-CCR-M79-1021	Dissolved	Water	200.7	
550-173411-28	CH-CCR-W301-1021	Dissolved	Water	200.7	
550-173411-30	CH-CCR-W302-1021	Dissolved	Water	200.7	
550-173411-32	CH-CCR-W303-1021	Dissolved	Water	200.7	
550-173411-34	CH-CCR-W304-1021	Dissolved	Water	200.7	
550-173411-36	CH-CCR-W305-1021	Dissolved	Water	200.7	
550-173411-38	CH-CCR-W306-1021	Dissolved	Water	200.7	
550-173411-40	CH-CCR-W307R-1021	Dissolved	Water	200.7	
MB 550-257521/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257521/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257521/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173411-4 MS	CH-CCR-M53-1021	Dissolved	Water	200.7	
550-173411-4 MSD	CH-CCR-M53-1021	Dissolved	Water	200.7	

Prep Batch: 257525

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	200.7	

Metals (Continued)

Prep Batch: 257525 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	200.7	
550-173411-46	CH-CCR-W314-1021	Dissolved	Water	200.7	
550-173411-50	CH-CCR-FD04-1021	Dissolved	Water	200.7	
550-173411-52	CH-CCR-BAP-1021	Dissolved	Water	200.7	
550-173411-54	CH-CCR-BAPTD-1021	Dissolved	Water	200.7	
550-173411-56	CH-CCR-Petroglyph-1021	Dissolved	Water	200.7	
550-173411-58	CH-CCR-TanWash-1021	Dissolved	Water	200.7	
550-173411-60	CH-CCR-TWX3-1021	Dissolved	Water	200.7	
550-173411-62	CH-CCR-TWX4-1021	Dissolved	Water	200.7	
550-173411-64	CH-CCR-TWX5-1021	Dissolved	Water	200.7	
550-173411-66	CH-CCR-TWX6-1021	Dissolved	Water	200.7	
550-173411-68	CH-CCR-TWX7-1021	Dissolved	Water	200.7	
550-173411-70	CH-CCR-TWX8-1021	Dissolved	Water	200.7	
550-173411-72	CH-CCR-TWX9-1021	Dissolved	Water	200.7	
550-173411-74	CH-CCR-TWX10-1021	Dissolved	Water	200.7	
MB 550-257525/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257525/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257525/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173411-44 MS	CH-CCR-W309-1021	Dissolved	Water	200.7	
550-173411-44 MSD	CH-CCR-W309-1021	Dissolved	Water	200.7	

Prep Batch: 257542

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	245.1	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	245.1	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	245.1	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	245.1	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	245.1	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	245.1	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	245.1	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	245.1	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	245.1	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	245.1	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	245.1	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	245.1	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	245.1	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	245.1	
MB 550-257542/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257542/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257542/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-173423-E-1-A MS	Matrix Spike	Total/NA	Water	245.1	
550-173423-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 257545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	245.1	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	245.1	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	245.1	
MB 550-257545/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257545/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257545/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals (Continued)

Prep Batch: 257545 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-E-3-A MS	Matrix Spike	Total/NA	Water	245.1	
550-173429-E-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 257651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	245.1	257542
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	245.1	257542
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	245.1	257542
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	245.1	257542
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	245.1	257542
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	245.1	257542
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	245.1	257542
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	245.1	257542
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	245.1	257542
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	245.1	257542
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	245.1	257542
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	245.1	257542
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	245.1	257542
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	245.1	257542
MB 550-257542/1-A	Method Blank	Total/NA	Water	245.1	257542
LCS 550-257542/2-A	Lab Control Sample	Total/NA	Water	245.1	257542
LCSD 550-257542/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257542
550-173423-E-1-A MS	Matrix Spike	Total/NA	Water	245.1	257542
550-173423-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	257542

Analysis Batch: 257652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	245.1	257545
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	245.1	257545
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	245.1	257545
MB 550-257545/1-A	Method Blank	Total/NA	Water	245.1	257545
LCS 550-257545/2-A	Lab Control Sample	Total/NA	Water	245.1	257545
LCSD 550-257545/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257545
550-173429-E-3-A MS	Matrix Spike	Total/NA	Water	245.1	257545
550-173429-E-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	257545

Prep Batch: 257656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	245.1	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	245.1	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	245.1	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	245.1	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	245.1	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	245.1	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	245.1	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	245.1	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	245.1	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	245.1	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	245.1	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	245.1	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 257656 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	245.1	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	245.1	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	245.1	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	245.1	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	245.1	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	245.1	
MB 550-257656/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257656/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257656/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	245.1	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	245.1	

Analysis Batch: 257687

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	245.1	257656
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	245.1	257656
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	245.1	257656
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	245.1	257656
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	245.1	257656
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	245.1	257656
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	245.1	257656
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	245.1	257656
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	245.1	257656
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	245.1	257656
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	245.1	257656
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	245.1	257656
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	245.1	257656
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	245.1	257656
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	245.1	257656
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	245.1	257656
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	245.1	257656
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	245.1	257656
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	245.1	257656
MB 550-257656/1-A	Method Blank	Total/NA	Water	245.1	257656
LCS 550-257656/2-A	Lab Control Sample	Total/NA	Water	245.1	257656
LCSD 550-257656/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257656
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	245.1	257656
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	245.1	257656

Analysis Batch: 257701

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-2	CH-CCR-M52-1021	Dissolved	Water	200.8 LL	257498
550-173411-4	CH-CCR-M53-1021	Dissolved	Water	200.8 LL	257498
550-173411-6	CH-CCR-M55-1021	Dissolved	Water	200.8 LL	257498
550-173411-8	CH-CCR-M69-1021	Dissolved	Water	200.8 LL	257498
550-173411-10	CH-CCR-M70-1021	Dissolved	Water	200.8 LL	257498
550-173411-12	CH-CCR-M71-1021	Dissolved	Water	200.8 LL	257498
550-173411-16	CH-CCR-M73-1021	Dissolved	Water	200.8 LL	257498
550-173411-18	CH-CCR-M74-1021	Dissolved	Water	200.8 LL	257498
550-173411-20	CH-CCR-M77-1021	Dissolved	Water	200.8 LL	257498
550-173411-22	CH-CCR-M78-1021	Dissolved	Water	200.8 LL	257498

Metals (Continued)

Analysis Batch: 257701 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-24	CH-CCR-FD03-1021	Dissolved	Water	200.8 LL	257498
550-173411-26	CH-CCR-M79-1021	Dissolved	Water	200.8 LL	257498
550-173411-28	CH-CCR-W301-1021	Dissolved	Water	200.8 LL	257498
550-173411-30	CH-CCR-W302-1021	Dissolved	Water	200.8 LL	257498
550-173411-32	CH-CCR-W303-1021	Dissolved	Water	200.8 LL	257498
550-173411-34	CH-CCR-W304-1021	Dissolved	Water	200.8 LL	257498
550-173411-36	CH-CCR-W305-1021	Dissolved	Water	200.8 LL	257498
550-173411-38	CH-CCR-W306-1021	Dissolved	Water	200.8 LL	257498
550-173411-40	CH-CCR-W307R-1021	Dissolved	Water	200.8 LL	257498
MB 550-257498/1-A	Method Blank	Total/NA	Water	200.8 LL	257498
LCS 550-257498/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257498
LCSD 550-257498/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257498
550-173411-2 MS	CH-CCR-M52-1021	Dissolved	Water	200.8 LL	257498
550-173411-2 MSD	CH-CCR-M52-1021	Dissolved	Water	200.8 LL	257498

Analysis Batch: 257704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-46	CH-CCR-W314-1021	Dissolved	Water	200.8 LL	257499
550-173411-50	CH-CCR-FD04-1021	Dissolved	Water	200.8 LL	257499
550-173411-52	CH-CCR-BAP-1021	Dissolved	Water	200.8 LL	257499
550-173411-54	CH-CCR-BAPTD-1021	Dissolved	Water	200.8 LL	257499
550-173411-56	CH-CCR-Petroglyph-1021	Dissolved	Water	200.8 LL	257499
550-173411-58	CH-CCR-TanWash-1021	Dissolved	Water	200.8 LL	257499
550-173411-60	CH-CCR-TWX3-1021	Dissolved	Water	200.8 LL	257499
550-173411-62	CH-CCR-TWX4-1021	Dissolved	Water	200.8 LL	257499
550-173411-64	CH-CCR-TWX5-1021	Dissolved	Water	200.8 LL	257499
550-173411-66	CH-CCR-TWX6-1021	Dissolved	Water	200.8 LL	257499
550-173411-68	CH-CCR-TWX7-1021	Dissolved	Water	200.8 LL	257499
550-173411-70	CH-CCR-TWX8-1021	Dissolved	Water	200.8 LL	257499
550-173411-72	CH-CCR-TWX9-1021	Dissolved	Water	200.8 LL	257499
550-173411-74	CH-CCR-TWX10-1021	Dissolved	Water	200.8 LL	257499
MB 550-257499/1-A	Method Blank	Total/NA	Water	200.8 LL	257499
LCS 550-257499/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257499
LCSD 550-257499/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257499

Analysis Batch: 257736

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.7 Rev 4.4	257481

Metals (Continued)

Analysis Batch: 257736 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.7 Rev 4.4	257481
MB 550-257481/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257481
LCS 550-257481/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257481
LCSD 550-257481/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	

Analysis Batch: 257737

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7 Rev 4.4	257482
MB 550-257482/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257482
LCS 550-257482/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257482
LCSD 550-257482/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482

Analysis Batch: 257738

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-46	CH-CCR-W314-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-50	CH-CCR-FD04-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-52	CH-CCR-BAP-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-54	CH-CCR-BAPTD-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-56	CH-CCR-Petroglyph-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-58	CH-CCR-TanWash-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-60	CH-CCR-TWX3-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-62	CH-CCR-TWX4-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-64	CH-CCR-TWX5-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-66	CH-CCR-TWX6-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-68	CH-CCR-TWX7-1021	Dissolved	Water	200.7 Rev 4.4	257525

Metals (Continued)

Analysis Batch: 257738 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-70	CH-CCR-TWX8-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-72	CH-CCR-TWX9-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-74	CH-CCR-TWX10-1021	Dissolved	Water	200.7 Rev 4.4	257525
MB 550-257525/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257525
LCS 550-257525/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257525
LCSD 550-257525/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257525
550-173411-44 MS	CH-CCR-W309-1021	Dissolved	Water	200.7 Rev 4.4	257525
550-173411-44 MSD	CH-CCR-W309-1021	Dissolved	Water	200.7 Rev 4.4	257525

Analysis Batch: 257739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-2	CH-CCR-M52-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-4	CH-CCR-M53-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-6	CH-CCR-M55-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-8	CH-CCR-M69-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-10	CH-CCR-M70-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-12	CH-CCR-M71-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-16	CH-CCR-M73-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-18	CH-CCR-M74-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-20	CH-CCR-M77-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-22	CH-CCR-M78-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-24	CH-CCR-FD03-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-26	CH-CCR-M79-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-28	CH-CCR-W301-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-30	CH-CCR-W302-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-32	CH-CCR-W303-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-34	CH-CCR-W304-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-36	CH-CCR-W305-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-38	CH-CCR-W306-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-40	CH-CCR-W307R-1021	Dissolved	Water	200.7 Rev 4.4	257521
MB 550-257521/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257521
LCS 550-257521/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257521
LCSD 550-257521/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257521
550-173411-4 MS	CH-CCR-M53-1021	Dissolved	Water	200.7 Rev 4.4	257521
550-173411-4 MSD	CH-CCR-M53-1021	Dissolved	Water	200.7 Rev 4.4	257521

Prep Batch: 257778

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	245.1	
MB 550-257778/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257778/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257778/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-173582-E-1-B MS	Matrix Spike	Total/NA	Water	245.1	
550-173582-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 257819

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	245.1	257778
MB 550-257778/1-A	Method Blank	Total/NA	Water	245.1	257778
LCS 550-257778/2-A	Lab Control Sample	Total/NA	Water	245.1	257778
LCSD 550-257778/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257778

Metals (Continued)

Analysis Batch: 257819 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173582-E-1-B MS	Matrix Spike	Total/NA	Water	245.1	257778
550-173582-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	257778

Analysis Batch: 257833

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	200.7 Rev 4.4	257521

Analysis Batch: 257837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7 Rev 4.4	257482
MB 550-257482/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257482
LCS 550-257482/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257482
LCSD 550-257482/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482

Analysis Batch: 257838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.7 Rev 4.4	257481

Metals (Continued)

Analysis Batch: 257838 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.7 Rev 4.4	257481
MB 550-257481/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257481
LCS 550-257481/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257481
LCSD 550-257481/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257481
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	

Analysis Batch: 257889

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7 Rev 4.4	257482
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	257482
MB 550-257482/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257482
LCS 550-257482/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257482
LCSD 550-257482/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257482

Analysis Batch: 257891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.7 Rev 4.4	257481

Analysis Batch: 257953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	200.8 LL	257498

Analysis Batch: 257954

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	200.8 LL	257499
550-173411-42 MS	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499
550-173411-42 MSD	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499

Analysis Batch: 257957

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8 LL	257496
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8 LL	257496
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8 LL	257496
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496

Metals (Continued)

Analysis Batch: 257957 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.8 LL	257496
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8 LL	257496
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8 LL	257496
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8 LL	257496
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8 LL	257496
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8 LL	257496
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8 LL	257496
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8 LL	257496
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.8 LL	257496
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8 LL	257496
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8 LL	257496
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8 LL	257496
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8 LL	257496
MB 550-257496/1-A	Method Blank	Total/NA	Water	200.8 LL	257496
LCS 550-257496/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257496
LCSD 550-257496/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257496
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496

Analysis Batch: 257958

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.8 LL	257490
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.8 LL	257490
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.8 LL	257490
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.8 LL	257490
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.8 LL	257490
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.8 LL	257490
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.8 LL	257490
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.8 LL	257490
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.8 LL	257490
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.8 LL	257490
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.8 LL	257490
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.8 LL	257490
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.8 LL	257490
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.8 LL	257490
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.8 LL	257490
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.8 LL	257490
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.8 LL	257490
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.8 LL	257490
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.8 LL	257490
MB 550-257490/1-A	Method Blank	Total/NA	Water	200.8 LL	257490
LCS 550-257490/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257490
LCSD 550-257490/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257490
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490

Analysis Batch: 258062

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	200.8 LL	257498

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals

Analysis Batch: 258065

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	200.8 LL	257499
550-173411-42 MS	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499
550-173411-42 MSD	CH-CCR-W308-1021	Dissolved	Water	200.8 LL	257499

Analysis Batch: 258316

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8 LL	257496
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8 LL	257496
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8 LL	257496
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.8 LL	257496
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8 LL	257496
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8 LL	257496
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8 LL	257496
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8 LL	257496
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8 LL	257496
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8 LL	257496
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8 LL	257496
MB 550-257496/1-A	Method Blank	Total/NA	Water	200.8 LL	257496
LCS 550-257496/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257496
LCSD 550-257496/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257496
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496

Analysis Batch: 258317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.8 LL	257490
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.8 LL	257490
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.8 LL	257490
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.8 LL	257490
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.8 LL	257490
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.8 LL	257490
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.8 LL	257490
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.8 LL	257490
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.8 LL	257490
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.8 LL	257490
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.8 LL	257490
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.8 LL	257490
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.8 LL	257490
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.8 LL	257490
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.8 LL	257490
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.8 LL	257490
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.8 LL	257490
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.8 LL	257490
MB 550-257490/1-A	Method Blank	Total/NA	Water	200.8 LL	257490
LCS 550-257490/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257490
LCSD 550-257490/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257490
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490

Metals

Analysis Batch: 258425

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8 LL	257496
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8 LL	257496
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8 LL	257496
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8 LL	257496
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8 LL	257496
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.8 LL	257496
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8 LL	257496
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8 LL	257496
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8 LL	257496
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8 LL	257496

Analysis Batch: 258493

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8 LL	257496
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8 LL	257496
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8 LL	257496
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.8 LL	257496
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8 LL	257496
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8 LL	257496
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8 LL	257496
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8 LL	257496
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8 LL	257496
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8 LL	257496
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8 LL	257496
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.8 LL	257496
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8 LL	257496
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8 LL	257496
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8 LL	257496
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8 LL	257496
MB 550-257496/1-A	Method Blank	Total/NA	Water	200.8 LL	257496
LCS 550-257496/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257496
LCSD 550-257496/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257496
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	257496

Analysis Batch: 258494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
MB 550-257490/1-A	Method Blank	Total/NA	Water	200.8 LL	257490
LCS 550-257490/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257490
LCSD 550-257490/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257490
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.8 LL	257490

Prep Batch: 258534

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8	

Metals (Continued)

Prep Batch: 258534 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8	
MB 550-258534/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-258534/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-258534/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8	
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8	

Analysis Batch: 258637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.8 LL	257490
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.8 LL	257490
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.8 LL	257490
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.8 LL	257490
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.8 LL	257490
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.8 LL	257490
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.8 LL	257490
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.8 LL	257490
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.8 LL	257490
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.8 LL	257490
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.8 LL	257490
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.8 LL	257490
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.8 LL	257490
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.8 LL	257490
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.8 LL	257490
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.8 LL	257490
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.8 LL	257490
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.8 LL	257490
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.8 LL	257490

Analysis Batch: 258639

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.8 LL	258534
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.8 LL	258534
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.8 LL	258534
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	258534
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.8 LL	258534
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.8 LL	258534
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.8 LL	258534
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.8 LL	258534
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.8 LL	258534
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.8 LL	258534

Metals (Continued)

Analysis Batch: 258639 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.8 LL	258534
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.8 LL	258534
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.8 LL	258534
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.8 LL	258534
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.8 LL	258534
MB 550-258534/1-A	Method Blank	Total/NA	Water	200.8 LL	258534
LCS 550-258534/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	258534
LCSD 550-258534/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	258534
550-173411-47 MS	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	258534
550-173411-47 MSD	CH-CCR-W317-1021	Total/NA	Water	200.8 LL	258534

Prep Batch: 556271

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.7	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.7	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.7	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.7	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.7	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.7	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.7	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.7	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.7	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.7	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.7	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.7	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.7	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.7	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.7	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.7	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.7	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.7	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.7	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.7	
MB 280-556271/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-556271/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	200.7	
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	200.7	
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.7	
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.7	

Prep Batch: 556632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.7	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.7	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 556632 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7	
MB 280-556632/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-556632/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-173411-49 MS	CH-CCR-FD04-1021	Total/NA	Water	200.7	
550-173411-49 MSD	CH-CCR-FD04-1021	Total/NA	Water	200.7	

Analysis Batch: 556707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	200.7 Rev 4.4	556271
MB 280-556271/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	556271
LCS 280-556271/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-3 MS	CH-CCR-M53-1021	Total/NA	Water	200.7 Rev 4.4	556271
550-173411-3 MSD	CH-CCR-M53-1021	Total/NA	Water	200.7 Rev 4.4	556271

Analysis Batch: 557055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	200.7 Rev 4.4	556632

Metals (Continued)

Analysis Batch: 557055 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	200.7 Rev 4.4	556632
MB 280-556632/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	556632
LCS 280-556632/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-49 MS	CH-CCR-FD04-1021	Total/NA	Water	200.7 Rev 4.4	556632
550-173411-49 MSD	CH-CCR-FD04-1021	Total/NA	Water	200.7 Rev 4.4	556632

General Chemistry

Analysis Batch: 257478

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	SM 2540C	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	SM 2540C	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	SM 2540C	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	SM 2540C	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	SM 2540C	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	SM 2540C	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	SM 2540C	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	SM 2540C	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	SM 2540C	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	SM 2540C	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	SM 2540C	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	SM 2540C	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	SM 2540C	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	SM 2540C	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	SM 2540C	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	SM 2540C	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	SM 2540C	
MB 550-257478/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257478/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257478/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173411-5 DU	CH-CCR-M55-1021	Total/NA	Water	SM 2540C	
550-173411-41 DU	CH-CCR-W308-1021	Total/NA	Water	SM 2540C	

Analysis Batch: 257479

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	SM 2540C	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	SM 2540C	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	SM 2540C	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	SM 2540C	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	SM 2540C	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	SM 2540C	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	SM 2540C	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	SM 2540C	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	SM 2540C	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry (Continued)

Analysis Batch: 257479 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	SM 2540C	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	SM 2540C	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	SM 2540C	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	SM 2540C	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	SM 2540C	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	SM 2540C	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	SM 2540C	
MB 550-257479/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257479/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257479/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173411-11 DU	CH-CCR-M71-1021	Total/NA	Water	SM 2540C	
550-173411-61 DU	CH-CCR-TWX4-1021	Total/NA	Water	SM 2540C	

Analysis Batch: 257698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	SM 2540C	
MB 550-257698/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257698/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257698/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173411-47 DU	CH-CCR-W317-1021	Total/NA	Water	SM 2540C	

Analysis Batch: 257824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	SM 2540C	
MB 550-257824/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257824/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257824/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173530-B-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 258068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	SM 5310B	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	SM 5310B	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	SM 5310B	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	SM 5310B	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	SM 5310B	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	SM 5310B	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	SM 5310B	
MB 550-258068/35	Method Blank	Total/NA	Water	SM 5310B	
MB 550-258068/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-258068/36	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 550-258068/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-258068/37	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
LCSD 550-258068/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
320-81004-I-2 MS ^4	Matrix Spike	Total/NA	Water	SM 5310B	
320-81004-I-2 MSD ^4	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-173405-A-1 MS ^4	Matrix Spike	Total/NA	Water	SM 5310B	
550-173405-A-1 MSD ^4	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

General Chemistry

Analysis Batch: 258102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	350.1	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	350.1	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	350.1	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	350.1	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	350.1	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	350.1	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	350.1	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	350.1	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	350.1	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	350.1	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	350.1	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	350.1	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	350.1	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	350.1	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	350.1	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	350.1	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	350.1	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	350.1	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	350.1	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	350.1	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	350.1	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	350.1	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	350.1	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	350.1	
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	350.1	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	350.1	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	350.1	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	350.1	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	350.1	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	350.1	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	350.1	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	350.1	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	350.1	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	350.1	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	350.1	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	350.1	
MB 550-258102/21	Method Blank	Total/NA	Water	350.1	
MB 550-258102/60	Method Blank	Total/NA	Water	350.1	
LCS 550-258102/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-258102/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-258102/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-258102/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-173411-1 MS	CH-CCR-M52-1021	Total/NA	Water	350.1	
550-173411-1 MSD	CH-CCR-M52-1021	Total/NA	Water	350.1	
550-173411-19 MS	CH-CCR-M77-1021	Total/NA	Water	350.1	
550-173411-19 MSD	CH-CCR-M77-1021	Total/NA	Water	350.1	
550-173411-39 MS	CH-CCR-W307R-1021	Total/NA	Water	350.1	
550-173411-39 MSD	CH-CCR-W307R-1021	Total/NA	Water	350.1	
550-173411-61 MS	CH-CCR-TWX4-1021	Total/NA	Water	350.1	
550-173411-61 MSD	CH-CCR-TWX4-1021	Total/NA	Water	350.1	

General Chemistry

Analysis Batch: 258146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	SM 2540C	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	SM 2540C	
MB 550-258146/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-258146/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-258146/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173427-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 258148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-1	CH-CCR-M52-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-3	CH-CCR-M53-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-5	CH-CCR-M55-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-7	CH-CCR-M69-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-9	CH-CCR-M70-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-11	CH-CCR-M71-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-13	CH-CCR-M72-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-15	CH-CCR-M73-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-17	CH-CCR-M74-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-19	CH-CCR-M77-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-21	CH-CCR-M78-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-23	CH-CCR-FD03-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-25	CH-CCR-M79-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-27	CH-CCR-W301-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-29	CH-CCR-W302-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-31	CH-CCR-W303-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-33	CH-CCR-W304-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-35	CH-CCR-W305-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-37	CH-CCR-W306-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-39	CH-CCR-W307R-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-41	CH-CCR-W308-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-43	CH-CCR-W309-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-45	CH-CCR-W314-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-49	CH-CCR-FD04-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258148/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258148/23	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258148/34	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258148/45	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258148/51	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173272-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-173411-7 DU	CH-CCR-M69-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-25 DU	CH-CCR-M79-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-43 DU	CH-CCR-W309-1021	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 258292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	SM 2320B	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	SM 2320B	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	SM 2320B	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	SM 2320B	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 258292 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	SM 2320B	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	SM 2320B	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	SM 2320B	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	SM 2320B	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	SM 2320B	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	SM 2320B	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	SM 2320B	
MB 550-258292/34	Method Blank	Total/NA	Water	SM 2320B	
MB 550-258292/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-258292/33	Lab Control Sample	Total/NA	Water	SM 2320B	
LCS 550-258292/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-258292/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
LCSD 550-258292/45	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-173411-51 DU	CH-CCR-BAP-1021	Total/NA	Water	SM 2320B	
550-173411-71 DU	CH-CCR-TWX9-1021	Total/NA	Water	SM 2320B	

Analysis Batch: 258332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-2	CH-CCR-M52-1021	Dissolved	Water	SM 5310B	
550-173411-6	CH-CCR-M55-1021	Dissolved	Water	SM 5310B	
550-173411-8	CH-CCR-M69-1021	Dissolved	Water	SM 5310B	
550-173411-10	CH-CCR-M70-1021	Dissolved	Water	SM 5310B	
550-173411-12	CH-CCR-M71-1021	Dissolved	Water	SM 5310B	
550-173411-14	CH-CCR-M72-1021	Dissolved	Water	SM 5310B	
550-173411-16	CH-CCR-M73-1021	Dissolved	Water	SM 5310B	
550-173411-18	CH-CCR-M74-1021	Dissolved	Water	SM 5310B	
550-173411-20	CH-CCR-M77-1021	Dissolved	Water	SM 5310B	
550-173411-22	CH-CCR-M78-1021	Dissolved	Water	SM 5310B	
550-173411-24	CH-CCR-FD03-1021	Dissolved	Water	SM 5310B	
550-173411-26	CH-CCR-M79-1021	Dissolved	Water	SM 5310B	
550-173411-28	CH-CCR-W301-1021	Dissolved	Water	SM 5310B	
550-173411-30	CH-CCR-W302-1021	Dissolved	Water	SM 5310B	
550-173411-32	CH-CCR-W303-1021	Dissolved	Water	SM 5310B	
550-173411-34	CH-CCR-W304-1021	Dissolved	Water	SM 5310B	
550-173411-36	CH-CCR-W305-1021	Dissolved	Water	SM 5310B	
550-173411-38	CH-CCR-W306-1021	Dissolved	Water	SM 5310B	
550-173411-40	CH-CCR-W307R-1021	Dissolved	Water	SM 5310B	
550-173411-42	CH-CCR-W308-1021	Dissolved	Water	SM 5310B	
550-173411-44	CH-CCR-W309-1021	Dissolved	Water	SM 5310B	
550-173411-46	CH-CCR-W314-1021	Dissolved	Water	SM 5310B	
550-173411-54	CH-CCR-BAPTD-1021	Dissolved	Water	SM 5310B	
550-173411-56	CH-CCR-Petroglyph-1021	Dissolved	Water	SM 5310B	
550-173411-58	CH-CCR-TanWash-1021	Dissolved	Water	SM 5310B	
550-173411-60	CH-CCR-TWX3-1021	Dissolved	Water	SM 5310B	
550-173411-62	CH-CCR-TWX4-1021	Dissolved	Water	SM 5310B	
550-173411-64	CH-CCR-TWX5-1021	Dissolved	Water	SM 5310B	
550-173411-72	CH-CCR-TWX9-1021	Dissolved	Water	SM 5310B	
550-173411-74	CH-CCR-TWX10-1021	Dissolved	Water	SM 5310B	
MB 550-258332/34	Method Blank	Dissolved	Water	SM 5310B	
MB 550-258332/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-258332/35	Lab Control Sample	Dissolved	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 258332 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-258332/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-258332/36	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
LCSD 550-258332/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-173411-2 MS	CH-CCR-M52-1021	Dissolved	Water	SM 5310B	
550-173411-2 MSD	CH-CCR-M52-1021	Dissolved	Water	SM 5310B	
550-173411-42 MS	CH-CCR-W308-1021	Dissolved	Water	SM 5310B	
550-173411-42 MSD	CH-CCR-W308-1021	Dissolved	Water	SM 5310B	

Analysis Batch: 258399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-51	CH-CCR-BAP-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-53	CH-CCR-BAPTD-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-57	CH-CCR-TanWash-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-61	CH-CCR-TWX4-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-67	CH-CCR-TWX7-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-71	CH-CCR-TWX9-1021	Total/NA	Water	SM 4500 H+ B	
550-173411-73	CH-CCR-TWX10-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173411-61 DU	CH-CCR-TWX4-1021	Total/NA	Water	SM 4500 H+ B	
550-173603-A-1 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 258432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-4	CH-CCR-M53-1021	Dissolved	Water	SM 5310B	
550-173411-50	CH-CCR-FD04-1021	Dissolved	Water	SM 5310B	
550-173411-52	CH-CCR-BAP-1021	Dissolved	Water	SM 5310B	
550-173411-66	CH-CCR-TWX6-1021	Dissolved	Water	SM 5310B	
550-173411-68	CH-CCR-TWX7-1021	Dissolved	Water	SM 5310B	
550-173411-70	CH-CCR-TWX8-1021	Dissolved	Water	SM 5310B	
MB 550-258432/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-258432/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-258432/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-173411-4 MS	CH-CCR-M53-1021	Dissolved	Water	SM 5310B	
550-173411-4 MSD	CH-CCR-M53-1021	Dissolved	Water	SM 5310B	

Analysis Batch: 258433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-55	CH-CCR-Petroglyph-1021	Total/NA	Water	SM 5310B	
550-173411-59	CH-CCR-TWX3-1021	Total/NA	Water	SM 5310B	
550-173411-63	CH-CCR-TWX5-1021	Total/NA	Water	SM 5310B	
550-173411-65	CH-CCR-TWX6-1021	Total/NA	Water	SM 5310B	
550-173411-69	CH-CCR-TWX8-1021	Total/NA	Water	SM 5310B	
MB 550-258433/22	Method Blank	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 258433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-258433/23	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-258433/24	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-173366-B-4 MS ^10	Matrix Spike	Total/NA	Water	SM 5310B	
550-173366-B-4 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Client Sample ID: CH-CCR-M52-1021

Lab Sample ID: 550-173411-1

Date Collected: 10/29/21 11:28

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/02/21 23:12	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 14:52	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257640	11/03/21 01:54	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:15	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 17:53	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 02:35	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:14	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:18	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:22	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:39	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:38	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M52-1021

Lab Sample ID: 550-173411-2

Date Collected: 10/29/21 11:28

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:44	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:09	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 15:01	MEG	TAL PHX

Client Sample ID: CH-CCR-M53-1021

Lab Sample ID: 550-173411-3

Date Collected: 10/28/21 16:18

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/02/21 23:31	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 16:16	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257640	11/03/21 02:22	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:17	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53-1021

Lab Sample ID: 550-173411-3

Date Collected: 10/28/21 16:18
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 17:55	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 02:51	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:12	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:16	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258494	11/12/21 13:45	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:41	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:44	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M53-1021

Lab Sample ID: 550-173411-4

Date Collected: 10/28/21 16:18
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:42	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:11	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 17:37	MEG	TAL PHX

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-5

Date Collected: 10/27/21 15:47
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/02/21 23:49	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 16:44	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257640	11/03/21 02:50	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:20	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 17:58	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:19	LMT	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-5

Date Collected: 10/27/21 15:47
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:16	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:20	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:25	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:43	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:46	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M55-1021

Lab Sample ID: 550-173411-6

Date Collected: 10/27/21 15:47
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:47	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:13	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 15:46	MEG	TAL PHX

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-7

Date Collected: 10/29/21 12:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 00:07	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 17:12	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257640	11/03/21 03:18	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:28	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:01	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:23	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:19	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:22	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-7
Date Collected: 10/29/21 12:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:27	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:45	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:47	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M69-1021

Lab Sample ID: 550-173411-8
Date Collected: 10/29/21 12:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:50	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:15	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 15:57	MEG	TAL PHX

Client Sample ID: CH-CCR-M70-1021

Lab Sample ID: 550-173411-9
Date Collected: 10/29/21 14:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 00:26	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257639	11/02/21 23:48	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 17:39	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:30	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:03	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:27	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:21	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:24	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258637	11/15/21 15:29	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:47	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:49	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-1021

Lab Sample ID: 550-173411-9
Date Collected: 10/29/21 14:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M70-1021

Lab Sample ID: 550-173411-10
Date Collected: 10/29/21 14:28
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:52	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:17	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 16:10	MEG	TAL PHX

Client Sample ID: CH-CCR-M71-1021

Lab Sample ID: 550-173411-11
Date Collected: 10/30/21 11:08
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 00:44	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257639	11/03/21 00:16	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 18:07	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:33	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:06	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:31	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:23	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:26	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258637	11/15/21 15:31	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:49	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:50	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Eurofins TestAmerica, Phoenix

Client Sample ID: CH-CCR-M71-1021

Lab Sample ID: 550-173411-12

Date Collected: 10/30/21 11:08

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 22:55	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:20	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 16:23	MEG	TAL PHX

Client Sample ID: CH-CCR-M72-1021

Lab Sample ID: 550-173411-13

Date Collected: 10/30/21 09:54

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 01:03	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257639	11/03/21 00:44	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 18:35	JNW	TAL PHX
Total/NA	Analysis	300.0		1000	257750	11/04/21 08:11	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	257838	11/04/21 18:08	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	257891	11/05/21 15:43	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:35	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:25	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258637	11/15/21 15:33	ARE	TAL PHX
Total/NA	Prep	245.1			257778	11/04/21 15:49	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257819	11/04/21 18:54	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:52	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M72-1021

Lab Sample ID: 550-173411-14

Date Collected: 10/30/21 09:54

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		2	257833	11/04/21 15:10	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	257953	11/04/21 18:26	ARE	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	258062	11/09/21 09:20	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M72-1021

Lab Sample ID: 550-173411-14

Date Collected: 10/30/21 09:54
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 16:37	MEG	TAL PHX

Client Sample ID: CH-CCR-M73-1021

Lab Sample ID: 550-173411-15

Date Collected: 10/30/21 12:00
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 01:58	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 07:11	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 20:27	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:38	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:11	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:39	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:27	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:30	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:35	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:51	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M73-1021

Lab Sample ID: 550-173411-16

Date Collected: 10/30/21 12:00
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:00	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:24	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 16:49	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M74-1021

Lab Sample ID: 550-173411-17
Date Collected: 10/30/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 02:16	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 07:29	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 20:55	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:41	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:13	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:43	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:29	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:32	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:37	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:53	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 06:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M74-1021

Lab Sample ID: 550-173411-18
Date Collected: 10/30/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:03	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:26	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 17:00	MEG	TAL PHX

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-19
Date Collected: 10/28/21 13:42
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 02:35	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 07:48	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 21:23	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:43	MGM	TAL PHX

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-19

Date Collected: 10/28/21 13:42

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:16	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:47	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:31	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:34	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:39	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:55	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M77-1021

Lab Sample ID: 550-173411-20

Date Collected: 10/28/21 13:42

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:05	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:28	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 17:13	MEG	TAL PHX

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-21

Date Collected: 10/28/21 11:18

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 02:53	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 08:06	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 21:51	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:46	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:24	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 03:51	LMT	TAL DEN

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-21
Date Collected: 10/28/21 11:18
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:37	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:41	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:47	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:01	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:10	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M78-1021

Lab Sample ID: 550-173411-22
Date Collected: 10/28/21 11:18
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:13	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:34	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 17:50	MEG	TAL PHX

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-23
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 03:12	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 08:24	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 22:19	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:48	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:26	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:12	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:39	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:43	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-23

Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:49	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:03	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:11	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-FD03-1021

Lab Sample ID: 550-173411-24

Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:15	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:36	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 18:00	MEG	TAL PHX

Client Sample ID: CH-CCR-M79-1021

Lab Sample ID: 550-173411-25

Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 03:30	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 08:43	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 22:47	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:51	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:29	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:16	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:42	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:45	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:51	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:05	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:13	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M79-1021
Lab Sample ID: 550-173411-25
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-M79-1021
Lab Sample ID: 550-173411-26
Date Collected: 10/25/21 13:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:18	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:38	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 18:13	MEG	TAL PHX

Client Sample ID: CH-CCR-W301-1021
Lab Sample ID: 550-173411-27
Date Collected: 10/28/21 14:32
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 03:48	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 09:01	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 23:15	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 19:59	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:32	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:20	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:44	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:47	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:54	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:07	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:14	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W301-1021

Lab Sample ID: 550-173411-28

Date Collected: 10/28/21 14:32

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:21	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:40	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 18:25	MEG	TAL PHX

Client Sample ID: CH-CCR-W302-1021

Lab Sample ID: 550-173411-29

Date Collected: 10/30/21 11:58

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 04:07	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 09:57	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/06/21 23:43	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:01	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:34	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:24	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:46	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:49	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:56	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:09	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:16	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W302-1021

Lab Sample ID: 550-173411-30

Date Collected: 10/30/21 11:58

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:23	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:42	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 18:36	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-1021

Lab Sample ID: 550-173411-31

Date Collected: 10/28/21 15:20

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 04:25	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 10:15	JNW	TAL PHX
Total/NA	Analysis	300.0		5	257939	11/07/21 00:11	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:04	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:37	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:28	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:48	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:51	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 15:58	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:11	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:17	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W303-1021

Lab Sample ID: 550-173411-32

Date Collected: 10/28/21 15:20

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:26	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:45	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 18:48	MEG	TAL PHX

Client Sample ID: CH-CCR-W304-1021

Lab Sample ID: 550-173411-33

Date Collected: 10/28/21 10:25

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/03/21 04:44	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 10:33	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 14:35	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:06	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1021

Lab Sample ID: 550-173411-33

Date Collected: 10/28/21 10:25

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:39	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:32	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:50	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:53	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 16:00	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:13	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:19	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W304-1021

Lab Sample ID: 550-173411-34

Date Collected: 10/28/21 10:25

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:28	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:47	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 19:01	MEG	TAL PHX

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-35

Date Collected: 10/29/21 09:28

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257638	11/03/21 10:52	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 11:10	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 15:59	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:09	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:42	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:36	LMT	TAL DEN

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-35

Date Collected: 10/29/21 09:28
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:52	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:55	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 16:02	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:15	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:20	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W305-1021

Lab Sample ID: 550-173411-36

Date Collected: 10/29/21 09:28
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:31	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:49	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 19:13	MEG	TAL PHX

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-37

Date Collected: 10/29/21 10:26
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257638	11/03/21 11:29	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 11:47	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 16:27	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:12	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:45	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:40	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:54	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:57	ARE	TAL PHX

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-37

Date Collected: 10/29/21 10:26

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 16:04	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 20:17	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:22	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W306-1021

Lab Sample ID: 550-173411-38

Date Collected: 10/29/21 10:26

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:33	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:51	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 19:27	MEG	TAL PHX

Client Sample ID: CH-CCR-W307R-1021

Lab Sample ID: 550-173411-39

Date Collected: 10/28/21 09:17

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257740	11/03/21 20:38	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257740	11/03/21 21:06	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 16:53	JNW	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257736	11/03/21 20:14	MGM	TAL PHX
Total/NA	Prep	200.7			257481	11/02/21 06:47	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257838	11/04/21 18:47	MGM	TAL PHX
Total/NA	Prep	200.7			556271	11/07/21 08:44	CJB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	556707	11/09/21 04:44	LMT	TAL DEN
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257958	11/04/21 21:56	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258317	11/10/21 19:59	ARE	TAL PHX
Total/NA	Prep	200.8			257490	11/02/21 08:35	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258637	11/15/21 16:06	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:56	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:37	DGS	TAL PHX

Client Sample ID: CH-CCR-W307R-1021 — Lab Sample ID: 550-173411-39

Date Collected: 10/28/21 09:17 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W307R-1021 — Lab Sample ID: 550-173411-40

Date Collected: 10/28/21 09:17 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257521	11/02/21 11:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257739	11/03/21 23:36	MGM	TAL PHX
Dissolved	Prep	200.8			257498	11/02/21 09:40	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257701	11/03/21 18:53	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 19:37	MEG	TAL PHX

Client Sample ID: CH-CCR-W308-1021 — Lab Sample ID: 550-173411-41

Date Collected: 10/28/21 08:13 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257740	11/03/21 21:34	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257740	11/03/21 22:02	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 17:21	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:32	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:48	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257889	11/05/21 14:28	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:02	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:20	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:24	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:50	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:29	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 21:58	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:41	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-1021

Lab Sample ID: 550-173411-41

Date Collected: 10/28/21 08:13
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W308-1021

Lab Sample ID: 550-173411-42

Date Collected: 10/28/21 08:13
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:40	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257954	11/04/21 18:36	ARE	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258065	11/09/21 09:33	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 20:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W309-1021

Lab Sample ID: 550-173411-43

Date Collected: 10/27/21 14:55
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257740	11/03/21 22:30	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257740	11/03/21 22:58	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 17:49	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:35	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:51	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257889	11/05/21 14:30	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:06	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:22	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:26	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:52	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:31	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:00	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:43	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1021

Lab Sample ID: 550-173411-43

Date Collected: 10/27/21 14:55
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W309-1021

Lab Sample ID: 550-173411-44

Date Collected: 10/27/21 14:55
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:37	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257954	11/04/21 18:38	ARE	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258065	11/09/21 09:35	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 21:25	MEG	TAL PHX

Client Sample ID: CH-CCR-W314-1021

Lab Sample ID: 550-173411-45

Date Collected: 10/29/21 15:30
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257740	11/03/21 23:26	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257740	11/03/21 23:54	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 18:17	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:43	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:53	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:10	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:24	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:28	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:54	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:33	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:02	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:44	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		

Eurofins TestAmerica, Phoenix

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1021
Date Collected: 10/29/21 15:30
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-45
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-W314-1021
Date Collected: 10/29/21 15:30
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-46
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:42	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:14	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 21:38	MEG	TAL PHX

Client Sample ID: CH-CCR-W317-1021
Date Collected: 10/21/21 15:30
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-47
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257637	11/02/21 22:17	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257638	11/03/21 06:16	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:30	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:04	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257889	11/05/21 14:25	MGM	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:18	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:21	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:48	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:27	ARE	TAL PHX
Total/NA	Prep	245.1			257656	11/03/21 15:39	SRR	TAL PHX
Total/NA	Analysis	245.1		1	257687	11/03/21 19:37	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-FD04-1021

Lab Sample ID: 550-173411-49

Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257740	11/04/21 00:22	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257740	11/04/21 00:49	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 18:45	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:45	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:56	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:14	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:26	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:30	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:56	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:08	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:46	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257478		YET	TAL PHX
					(Start)	11/02/21 06:30		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258148	11/09/21 14:02	DGS	TAL PHX

Client Sample ID: CH-CCR-FD04-1021

Lab Sample ID: 550-173411-50

Date Collected: 10/28/21 09:17
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:45	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:16	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 18:10	MEG	TAL PHX

Client Sample ID: CH-CCR-BAP-1021

Lab Sample ID: 550-173411-51

Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257741	11/04/21 03:09	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257741	11/04/21 04:33	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 20:08	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:48	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAP-1021

Lab Sample ID: 550-173411-51

Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	257837	11/04/21 16:07	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 16:58	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:30	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	257957	11/04/21 20:29	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258316	11/10/21 18:32	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258493	11/12/21 12:58	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:35	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:10	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:47	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 13:37	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		2	258068	11/06/21 18:13	MEG	TAL PHX

Client Sample ID: CH-CCR-BAP-1021

Lab Sample ID: 550-173411-52

Date Collected: 10/31/21 11:52
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:48	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:18	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 18:23	MEG	TAL PHX

Client Sample ID: CH-CCR-BAPTD-1021

Lab Sample ID: 550-173411-53

Date Collected: 10/30/21 14:40
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257741	11/04/21 05:57	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257741	11/04/21 06:25	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 20:36	JNW	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-BAPTD-1021

Lab Sample ID: 550-173411-53

Date Collected: 10/30/21 14:40
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:51	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:09	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:01	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:50	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:31	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:34	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258493	11/12/21 13:01	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:37	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:12	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:49	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 13:54	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 18:24	MEG	TAL PHX

Client Sample ID: CH-CCR-BAPTD-1021

Lab Sample ID: 550-173411-54

Date Collected: 10/30/21 14:40
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:50	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:20	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 22:11	MEG	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-1021

Lab Sample ID: 550-173411-55

Date Collected: 10/30/21 15:20
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257741	11/04/21 06:53	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257741	11/04/21 07:21	JNW	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-1021
Lab Sample ID: 550-173411-55
Date Collected: 10/30/21 15:20
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258039	11/08/21 21:04	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:53	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:12	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:04	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:54	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:37	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:40	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258425	11/11/21 20:27	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258493	11/12/21 13:09	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:43	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:14	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:50	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:03	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258433	11/11/21 21:42	MEG	TAL PHX

Client Sample ID: CH-CCR-Petroglyph-1021
Lab Sample ID: 550-173411-56
Date Collected: 10/30/21 15:20
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 21:58	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:26	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 22:24	MEG	TAL PHX

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-57

Date Collected: 10/30/21 15:52

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258039	11/08/21 21:32	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257933	11/06/21 06:16	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257933	11/06/21 06:44	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:56	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:14	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:06	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 00:58	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:39	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:42	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258425	11/11/21 20:29	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258493	11/12/21 13:11	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:45	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:16	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:52	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:12	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 20:26	MEG	TAL PHX

Client Sample ID: CH-CCR-TanWash-1021

Lab Sample ID: 550-173411-58

Date Collected: 10/30/21 15:52

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:00	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:28	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 22:37	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX3-1021
Date Collected: 10/31/21 08:14
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-59
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258039	11/08/21 22:00	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257933	11/06/21 07:12	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257933	11/06/21 07:40	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 20:58	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:17	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:14	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:02	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:41	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:44	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258425	11/11/21 20:31	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258493	11/12/21 13:13	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:47	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:18	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 07:53	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:21	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258433	11/11/21 21:53	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX3-1021
Date Collected: 10/31/21 08:14
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-60
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:03	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:30	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 22:49	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX4-1021
Lab Sample ID: 550-173411-61
Date Collected: 10/31/21 08:32
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258039	11/08/21 22:28	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257933	11/06/21 08:08	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257933	11/06/21 08:36	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:01	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:20	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:17	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:06	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:43	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:33	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:15	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:50	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:20	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:04	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:30	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 20:47	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX4-1021
Lab Sample ID: 550-173411-62
Date Collected: 10/31/21 08:32
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:06	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:32	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 22:59	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX5-1021

Lab Sample ID: 550-173411-63
Date Collected: 10/31/21 08:51
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258039	11/08/21 22:56	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257933	11/06/21 09:04	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257933	11/06/21 09:32	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:03	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:27	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:19	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:11	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:45	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:35	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:17	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:52	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:22	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:08	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:39	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258433	11/11/21 22:03	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX5-1021

Lab Sample ID: 550-173411-64
Date Collected: 10/31/21 08:51
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:08	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:35	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/10/21 23:36	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX6-1021

Lab Sample ID: 550-173411-65

Date Collected: 10/31/21 09:10

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257921	11/06/21 07:11	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257921	11/06/21 07:39	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 23:24	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:06	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:30	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:22	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:15	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:47	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:37	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:19	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:24	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:10	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:48	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258433	11/11/21 22:16	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX6-1021

Lab Sample ID: 550-173411-66

Date Collected: 10/31/21 09:10

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:11	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:37	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 18:33	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX7-1021

Lab Sample ID: 550-173411-67

Date Collected: 10/31/21 09:36

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	257921	11/06/21 08:07	JNW	TAL PHX

Client Sample ID: CH-CCR-TWX7-1021
Date Collected: 10/31/21 09:36
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-67
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	257921	11/06/21 08:35	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258039	11/08/21 23:52	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:14	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:33	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:24	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:19	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:49	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:40	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:21	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:54	ARE	TAL PHX
Total/NA	Prep	245.1			257542	11/02/21 14:15	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257651	11/02/21 22:26	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:11	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 14:57	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 21:18	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX7-1021
Date Collected: 10/31/21 09:36
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-68
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:13	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:39	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 18:46	MEG	TAL PHX

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX8-1021
Date Collected: 10/31/21 09:52
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-69
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 02:40	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257940	11/06/21 19:59	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/06/21 20:27	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:16	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:35	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:27	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:23	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:51	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:42	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:23	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:56	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:25	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:13	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 15:06	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258433	11/11/21 22:26	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX8-1021
Date Collected: 10/31/21 09:52
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-70
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:16	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:41	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 18:56	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX9-1021
Lab Sample ID: 550-173411-71

Date Collected: 10/31/21 10:24
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 04:03	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257940	11/06/21 20:55	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/06/21 21:23	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:19	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:38	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:30	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:27	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:53	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:57	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:44	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:26	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 16:58	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:27	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:14	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 15:34	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257479		YET	TAL PHX
					(Start)	11/02/21 06:33		
					(End)	11/03/21 08:40		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 21:39	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX9-1021
Lab Sample ID: 550-173411-72

Date Collected: 10/31/21 10:24
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:19	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:43	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 00:16	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Job ID: 550-173411-1
Project/Site: CCR Groundwater Monitoring
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-TWX10-1021
Lab Sample ID: 550-173411-73
Date Collected: 10/31/21 10:41
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 04:31	JNW	TAL PHX
Total/NA	Analysis	300.0		2	257940	11/06/21 21:51	JNW	TAL PHX
Total/NA	Analysis	300.0		200	257940	11/06/21 22:19	JNW	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257737	11/03/21 21:22	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	257837	11/04/21 16:40	MGM	TAL PHX
Total/NA	Prep	200.7			257482	11/02/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	257837	11/04/21 17:32	MGM	TAL PHX
Total/NA	Prep	200.7			556632	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/11/21 01:47	LMT	TAL DEN
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	257957	11/04/21 20:56	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258316	11/10/21 18:59	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258425	11/11/21 20:46	ARE	TAL PHX
Total/NA	Prep	200.8			257496	11/02/21 08:42	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258493	11/12/21 13:28	ARE	TAL PHX
Total/NA	Prep	200.8			258534	11/12/21 20:00	CXK	TAL PHX
Total/NA	Analysis	200.8 LL		1	258639	11/15/21 17:00	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:29	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258102	11/09/21 08:16	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 15:52	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257824		YET	TAL PHX
					(Start)	11/05/21 08:15		
					(End)	11/08/21 08:35		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		1	258068	11/06/21 21:52	MEG	TAL PHX

Client Sample ID: CH-CCR-TWX10-1021
Lab Sample ID: 550-173411-74
Date Collected: 10/31/21 10:41
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257525	11/02/21 11:10	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	257738	11/03/21 22:21	MGM	TAL PHX
Dissolved	Prep	200.8			257499	11/02/21 09:47	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	257704	11/03/21 19:45	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 00:29	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-173411-1
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-30-21
A2LA	ISO/IEC 17025	2907.01	11-30-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-19-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	11-21-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	08-31-22
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Accreditation/Certification Summary

Client: Arizona Public Service Company | Job ID: 550-173411-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	11-30-21

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-1
SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173411

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 4 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA [redacted] (Cl, F, SO4)	EPA [redacted] - Totals (B, Ca, Be, Li, Fe, [redacted]	EPA [redacted] - Dissolved (Fe, Mn)	EPA [redacted] - Totals (Sb, As, Ba, Cd, [redacted] Pb, Mo, Se, Tl)	EPA [redacted] 8 - Dissolved (As, Co)	EPA [redacted] 1 - Totals (Hg)	SM [redacted] HB (pH)	SM [redacted] C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)							Sample Specific Notes:
CH-CCR-M52-1021	01 + 02	10/29/2021	11:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							Low Flow
CH-CCR-M53-1021	03 + 04	10/28/2021	16:18	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M55-1021	05 + 06	10/27/2021	15:47	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M69-1021	07 + 08	10/29/2021	12:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M70-1021	09 - 10	10/29/21	14:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M71-1021	-11 + 12	10/30/21	11:08	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M72-1021	-13 + 14	10/30/21	09:54	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M73-1021	-15 + 16	10/30/21	12:00	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M74-1021	17 + 18	10/30/21	13:00	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M77-1021	19 + 20	10/28/21	13:42	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-M78-1021	21 + 22	10/28/21	11:18	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X							"
CH-CCR-FD03-1021	23 + 24	10/25/21	13:30	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X							"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other									1	4	4	4	4	4	1	1	2	3	3							

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal

550-173411 Chain of Custody

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd:____ Corr'd:____ Therm ID No.:____		
Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: EM Dmx	Date/Time: 11/1/21 1548

0.2°C, 2.9°C, 2.4°C, 1.4°C, 1.3°C ICE COO

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173411

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	2 of 4 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 ([redacted])	EPA 200.7 - [redacted] (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - [redacted]ed (Fe, Mn)	EPA 200.8 - [redacted] (Sb, As, Ba, Cd, Co, Cr, Se, Tl)	EPA 200.8 - [redacted]ed (As, Co)	EPA 245.1 - [redacted] (Hg)	[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - [redacted] (B, Ca, Be, Li)	Sample Specific Notes:
CH-CCR-M79-1021	25 + 26	10/25/21	13:30	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		Low Flow
CH-CCR-W301-1021	27 + 28	10/28/2021	14:32	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W302-1021	29 + 30	10/30/2021	11:58	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W303-1021	31 + 32	10/28/2021	15:20	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W304-1021	33 + 34	10/28/2021	10:25	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W305-1021	35 + 36	10/29/21	09:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W306-1021	37 + 38	10/29/21	10:26	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W307R-1021	39 - 40	10/28/2021	9:17	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W308-1021	41 + 42	10/28/2021	08:13	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W309-1021	43 + 44	10/27/2021	14:55	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W314-1021	45 + 46	10/29/2021	15:30	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-W317-1021	47 + 48	10/21/21	15:30	G	W	2	N	Y	X			X		X	X	X				X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	3	3	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.2°c
1.3°c, 1.4°c, 2.4°c, 2.9°c ice cou

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by:	Company: Wood	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: Eta Day	Date/Time: 11/1/21 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

173411

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	3 of 4 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	Sample Specific Notes:
CH-CCR-FD04-1021 49+50	10/28/21	09:17	G	W	8	*	N	X X X X X X X X	X	X	X		Low Flow

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ 1 4 4 4 4 4 1 1 2 3 3

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.3/1.3°, 1.4°C, 2.4°C, 2.1°C ICE COO

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______		Therm ID No.: ______
Relinquished by:	Company: Wood	Date/Time: 11/01/21 15:45	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole [illegible]	Company: ETA PHX	Date/Time: 11/1/21 1548

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

173411

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	4 of 4 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]	[redacted]	[redacted]	[redacted]	EPA 200.8 - Dis[redacted] (As, Co)	SM 4500-HB [redacted]	SM 2540C [redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	Sample Specific Notes:
CH-CCR-BAP-1021	51 + 52	10/31/21	11:52	C	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Surface Water Sample
CH-CCR-BAPTD-1021	53 + 54	10/30/2021	14:40	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CCR-Petroglyph-1021	55 + 56	10/30/2021	15:20	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TanWash-1021	57 + 58	10/30/2021	15:52	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX3-1021	59 + 60	10/31/2021	08:14	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX4-1021	61 + 62	10/31/21	08:32	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX5-1021	63 + 64	10/31/21	08:51	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX6-1021	65 + 66	10/31/2021	09:10	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX7-1021	67 + 68	10/31/2021	09:36	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX8-1022	69 + 70	10/31/2021	09:52	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX9-1023	71 + 72	10/31/21	10:24	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX10-1024	73 + 74	10/31/21	10:41	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	1	1	2	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.2°C, 1.4°C ice cor
1.2°C, 2.4°C, 2.9°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: ETA PHX	Date/Time: 11/1/21 1648

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173411-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M52-1021 (550-173411-1)	10/29/21	11:28 Arizona		Water			X	1	AZ Sample
CH-CCR-M53-1021 (550-173411-3)	10/28/21	16:18 Arizona		Water			X	1	AZ Sample
CH-CCR-M55-1021 (550-173411-5)	10/27/21	15:47 Arizona		Water			X	1	AZ Sample
CH-CCR-M69-1021 (550-173411-7)	10/29/21	12:28 Arizona		Water			X	1	AZ Sample
CH-CCR-M70-1021 (550-173411-9)	10/29/21	14:28 Arizona		Water			X	1	AZ Sample
CH-CCR-M71-1021 (550-173411-11)	10/30/21	11:08 Arizona		Water			X	1	AZ Sample
CH-CCR-M72-1021 (550-173411-13)	10/30/21	09:54 Arizona		Water			X	1	AZ Sample
CH-CCR-M73-1021 (550-173411-15)	10/30/21	12:00 Arizona		Water			X	1	AZ Sample
CH-CCR-M74-1021 (550-173411-17)	10/30/21	13:00 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Eric	11-02-21 10:30	TA-PHX	Fedex		
FedEx			[signature]	11/3/21 1055	ETA/DEN

Custody Seals Intact: ▲ Yes △ No | Custody Seal No.: 1754782 | Cooler Temperature(s) °C and Other Remarks: 0.6 IR4 CF +/-1.0

Ver: 06/08/2021

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 2 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173411-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021	**Analysis Requested**		**Preservation Codes:**
City: Arvada	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
State, Zip: CO, 80002				M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			Other:
Site: Arizona Public Service	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M77-1021 (550-173411-19)	10/28/21	13:42 Arizona		Water			X	1	AZ Sample
CH-CCR-M78-1021 (550-173411-21)	10/28/21	11:18 Arizona		Water			X	1	AZ Sample
CH-CCR-FD03-1021 (550-173411-23)	10/25/21	13:30 Arizona		Water			X	1	AZ Sample
CH-CCR-M79-1021 (550-173411-25)	10/25/21	13:30 Arizona		Water			X	1	AZ Sample
CH-CCR-W301-1021 (550-173411-27)	10/28/21	14:32 Arizona		Water			X	1	AZ Sample
CH-CCR-W302-1021 (550-173411-29)	10/30/21	11:58 Arizona		Water			X	1	AZ Sample
CH-CCR-W303-1021 (550-173411-31)	10/28/21	15:20 Arizona		Water			X	1	AZ Sample
CH-CCR-W304-1021 (550-173411-33)	10/28/21	10:25 Arizona		Water			X	1	AZ Sample
CH-CCR-W305-1021 (550-173411-35)	10/29/21	09:28 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ____ Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Ewell 11-02-21	Date/Time: 10:30	Company: TA-PHX	Received by: Fedex · Date/Time: · Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature] · Date/Time: 11/3/21 1055 · Company: ETA DEN
Relinquished by:	Date/Time:	Company	Received by: · Date/Time: · Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:	

Ver: 06/08/2021

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 3 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173411-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021	Analysis Requested		Preservation Codes:
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W306-1021 (550-173411-37)	10/29/21	10:26 Arizona		Water			X	1	AZ Sample
CH-CCR-W307R-1021 (550-173411-39)	10/28/21	09:17 Arizona		Water			X	1	AZ Sample
CH-CCR-W308-1021 (550-173411-41)	10/28/21	08:13 Arizona		Water			X	1	AZ Sample
CH-CCR-W309-1021 (550-173411-43)	10/27/21	14:55 Arizona		Water			X	1	AZ Sample
CH-CCR-W314-1021 (550-173411-45)	10/29/21	15:30 Arizona		Water			X	1	AZ Sample
CH-CCR-FD04-1021 (550-173411-49)	10/28/21	09:17 Arizona		Water			X	1	AZ Sample
CH-CCR-BAP-1021 (550-173411-51)	10/31/21	11:52 Arizona		Water			X	1	AZ Sample
CH-CCR-BAPTD-1021 (550-173411-53)	10/30/21	14:40 Arizona		Water			X	1	AZ Sample
CH-CCR-Petroglyph-1021 (550-173411-55)	10/30/21	15:20 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification Unconfirmed	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ____ Months*
Deliverable Requested: I, II, III, IV, Other (specify) — Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Eric	Date/Time: 11-02-21 10:30	Company: TA-PHX	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by: [signature]	Date/Time: 11/3/21 1055	Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 06/08/2021

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.4
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 4 of 4
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173411-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021	**Analysis Requested**		**Preservation Codes:**
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			Other:

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-TanWash-1021 (550-173411-57)	10/30/21	15:52 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX3-1021 (550-173411-59)	10/31/21	08:14 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX4-1021 (550-173411-61)	10/31/21	08:32 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX5-1021 (550-173411-63)	10/31/21	08:51 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX6-1021 (550-173411-65)	10/31/21	09:10 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX7-1021 (550-173411-67)	10/31/21	09:36 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX8-1021 (550-173411-69)	10/31/21	09:52 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX9-1021 (550-173411-71)	10/31/21	10:24 Arizona		Water			X	1	AZ Sample
CH-CCR-TWX10-1021 (550-173411-73)	10/31/21	10:41 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification *Unconfirmed*		***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ______ Months*	
Deliverable Requested: I, II, III, IV, Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by: [signature]	Date/Time: 11-02-21 10:30	Company TA-PHX	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 11/3/21 1055	Company ETA DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173411-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 173411
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173411-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 173411
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 11/03/21 07:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-173411-2
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Rachel E. Sester

Authorized for release by:
12/2/2021 4:41:47 PM

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-173411-2

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-173411-2

Comments
No additional comments.

Receipt
The samples were received on 11/1/2021 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 0.2º C, 1.3º C, 1.4º C, 2.4º C and 2.9º C.

Receipt Exceptions
The 500 ml container for Denver workshare received with 100 ml of volume.

CH-CCR-W317-1021 (550-173411-47), CH-CCR-W317-1021 (550-173411-47[MS]) and CH-CCR-W317-1021 (550-173411-47[MSD])

Metals
Method 200.7: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 280-558984. An LCSD was included on the batch. Method: 200.7_P_TOT/200.7

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-2
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173411-47	CH-CCR-W317-1021	Water	10/21/21 15:30	11/01/21 15:48

Detection Summary

Client Sample ID: CH-CCR-W317-1021

Lab Sample ID: 550-173411-47

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.058		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W317-1021
Date Collected: 10/21/21 15:30
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-47
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.058		0.020	0.0091	mg/L		11/30/21 07:50	11/30/21 20:05	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-2
SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 280-558984/1-A
Matrix: Water
Analysis Batch: 559209

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 558984

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/30/21 07:50	11/30/21 19:53	1

Lab Sample ID: LCS 280-558984/2-A
Matrix: Water
Analysis Batch: 559209

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 558984

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.04		mg/L		104	90 - 112

Lab Sample ID: LCSD 280-558984/3-A
Matrix: Water
Analysis Batch: 559209

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 558984

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	1.00	1.03		mg/L		103	90 - 112	1	20

Metals

Prep Batch: 558984

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7	
MB 280-558984/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-558984/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-558984/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	

Analysis Batch: 559209

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-47	CH-CCR-W317-1021	Total/NA	Water	200.7 Rev 4.4	558984
MB 280-558984/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	558984
LCS 280-558984/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	558984
LCSD 280-558984/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	558984

Client Sample ID: CH-CCR-W317-1021
Date Collected: 10/21/21 15:30
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173411-47
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			558984	11/30/21 07:50	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	559209	11/30/21 20:05	LMT	TAL DEN

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-173411-2
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-30-21
A2LA	ISO/IEC 17025	2907.01	11-30-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-19-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	08-31-22
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22
Wyoming (UST)	A2LA	2907.01	11-30-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173411-2
SDG: APS Cholla Power Plant (BAP)

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL DEN

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173411

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/2/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 4 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA [redacted] (Cl, F, SO4)	EPA [redacted] - Totals (B, Ca, Be, Li, Fe, [redacted])	EPA [redacted] - Dissolved (Fe, Mn)	EPA [redacted] - Totals (Sb, As, Ba, Cd, [redacted] Pb, Mo, Se, Tl)	EPA [redacted]8 - Dissolved (As, Co)	EPA [redacted]1 - Totals (Hg)	SM [redacted]-H B (pH)	SM [redacted] C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	Sample Specific Notes:
CH-CCR-M52-1021	01 + 02	10/29/2021	11:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	Low Flow
CH-CCR-M53-1021	03 + 04	10/28/2021	16:18	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M55-1021	05 + 06	10/27/2021	15:47	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M69-1021	07 + 08	10/29/2021	12:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M70-1021	09 - 10	10/29/21	14:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M71-1021	-11 + 12	10/30/21	11:08	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M72-1021	-13 + 14	10/30/21	09:54	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M73-1021	-15 + 16	10/30/21	12:00	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M74-1021	17 + 18	10/30/21	13:00	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M77-1021	19 + 20	10/28/21	13:42	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-M78-1021	21 + 22	10/28/21	11:18	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-FD03-1021	23 + 24	10/25/21	13:30	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	3	3	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal

550-173411 Chain of Custody

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; *As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: ETA Phx	Date/Time: 11/1/21 1548

0.2°C, 2.9°C, 2.4°C, 1.4°C, 1.3°C ICE COO

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

173411

TestAmerica Phoenix

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.

12/2/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
4801 Cholla Lake Rd	Analysis Turnaround Time		
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS		
(928) 587-0319 Phone	TAT if different from Below ______		
FAX	☑ 2 weeks		
Project Name: CCR Groundwater Monitoring	☐ 1 week		
Site: APS Cholla Power Plant (BAP)	☐ 2 days		
PO #: 300588233	☐ 1 day		

COC No: 2 of 4 COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 ([redacted]O4)	EPA 200.7 - [redacted] (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - [redacted]ed (Fe, Mn)	EPA 200.8 - [redacted] (Sb, As, Ba, Cd, Co, Cr, Se, Tl)	EPA 200.8 - [redacted]ed (As, Co)	EPA 245.1 - [redacted] (Hg)	[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - [redacted] (B, Ca, Be, Li)				Sample Specific Notes:
CH-CCR-M79-1021	25 + 26	10/25/21	13:30	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					Low Flow
CH-CCR-W301-1021	27 + 28	10/28/2021	14:32	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W302-1021	29 + 30	10/30/2021	11:58	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W303-1021	31 + 32	10/28/2021	15:20	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W304-1021	33 + 34	10/28/2021	10:25	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W305-1021	35 + 36	10/29/21	09:28	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W306-1021	37 + 38	10/29/21	10:26	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W307R-1021	39 - 40	10/28/2021	9:17	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W308-1021	41 + 42	10/28/2021	08:13	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W309-1021	43 + 44	10/27/2021	14:55	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W314-1021	45 + 46	10/29/2021	15:30	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
CH-CCR-W317-1021	47 + 48	10/21/21	15:30	G	W	2	N	Y	X			X		X	X	X				X				"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	3	3	4				

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.2°c
1.3°c, 1.4°c, 2.4°c, 2.9°c ice cor

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: ______ Corr'd: ______	Therm ID No.: ______

Relinquished by:	Company: Wood	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: Eta Phx	Date/Time: 11/1/21 1548

TestAmerica Phoenix

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

173411

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
4801 Cholla Lake Rd	Analysis Turnaround Time		COC No: 3 of 4 COCs
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS		Sampler:
(928) 587-0319 Phone	TAT if different from Below ____		For Lab Use Only:
FAX	☑ 2 weeks		Walk-in Client:
Project Name: CCR Groundwater Monitoring	☐ 1 week		Lab Sampling:
Site: APS Cholla Power Plant (BAP)	☐ 2 days		Job / SDG No.:
PO #: 300588233	☐ 1 day		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	Sample Specific Notes:
CH-CCR-FD04-1021 49+50	10/28/21	09:17	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		Low Flow
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3		

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.3/1.3°, 1.4°C, 2.4°C, 2.1°C ICE COO

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____		Therm ID No.: ____
Relinquished by:	Company:	Date/Time: 11/01/21 15:45	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: ETA PHX	Date/Time: 11/1/21 1540

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

173411

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

12/2/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	4 of 4 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EP[redacted]00.0[redacted]Cl, F[redacted]O4)	EP[redacted]200.7[redacted]Tot[redacted](B, Ca, Be, Li, Fe[redacted]n, K[redacted]g, [redacted]	EP[redacted]200.7[redacted]Dis[redacted]ed (Fe, Mn)	EP[redacted]200.8[redacted]Tot[redacted](Sb, As, Ba, Co[redacted]o, Cr, Pb, [redacted]Se, Tl)	EPA 200.8 - Dis[redacted]ved (As, Co)	SM 4500-HB (pl[redacted]	SM 2540C (TDS[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	Sample Specific Notes:
CH-CCR-BAP-1021	51 + 52	10/31/21	11:52	C	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Surface Water Sample
CH-CCR-BAPTD-1021	53 + 54	10/30/2021	14:40	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	Seepage Pump Port Sample
CH-CCR-Petroglyph-1021	55 + 56	10/30/2021	15:20	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TanWash-1021	57 + 58	10/30/2021	15:52	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX3-1021	59 + 60	10/31/2021	08:14	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX4-1021	61 + 62	10/31/21	08:32	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX5-1021	63 + 64	10/31/21	08:51	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX6-1021	65 + 66	10/31/2021	09:10	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX7-1021	67 + 68	10/31/2021	09:36	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX8-1022	69 + 70	10/31/2021	09:52	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX9-1023	71 + 72	10/31/21	10:24	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
CH-CCR-TWX10-1024	73 + 74	10/31/21	10:41	G	W	12	*		X	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	1	1	2	2	3	3	1	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

0.2°C, 1.4°C ice cor
1.7°C, 2.4°C, 2.9°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: ETA PHX	Date/Time: 11/1/21 1648

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Sester, Rachel E	Carrier Tracking No(s):	COC No: 550-32457.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Rachel.Sester@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173411-2
Address: 4955 Yarrow Street, ,	Due Date Requested: 12/5/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W317-1021 (550-173411-47MSD)	10/21/21	15:30 Arizona	MSD	Water			X	1	AZ Sample

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification

Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Nicole Hernd	Date/Time: 11/26/21 1430	Company: EnA PHX	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 11/27/2021 1015	Company: ETADEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: 0.3 IR9 - 0.1

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173411-2
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 173411
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173411-2
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 173411
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 11/03/21 07:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173411-2
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 173411
List Number: 3
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 11/27/21 11:36 AM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 29, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M52-1021	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 29, 2021 — Sample Date
11:28 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67598

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M52-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M53-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 28, 2021 — Sample Date

16:18 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67599

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M53-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 27, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M55-1021	< 0.4	0.9 ± 0.3	0.9 ± 0.3

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers 11/19/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 27, 2021 — 15:47 (24 hour clock) ______________

Sample Date — Sample Time — Owner/Contact Person

______________ ______________

Owner/Contact Fax Number — Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.9 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.9 ± 0.3	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67600

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M55-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 29, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M69-1021	0.6 ± 0.2	< 0.6	0.6 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/19/2021
Alex Myers, Ph.D. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 29, 2021 12:28 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.6 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67601

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M69-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 29, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M70-1021	0.6 ± 0.2	< 0.6	0.6 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 29, 2021 — Sample Date; 14:28 — Sample Time (24 hour clock)

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67602

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M70-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 30, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M71-1021	< 0.4	0.8 ± 0.3	0.8 ± 0.3

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 30, 2021 — Sample Date

11:08 — Sample Time (24 hour clock)

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.8 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.8 ± 0.3	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67603

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M71-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 30, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M72-1021	5.7 ± 0.3	5.5 ± 0.5	11.2 ± 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 30, 2021 | 9:54 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	11.2 ± 0.6		X
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	5.7 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	5.5 ± 0.5		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67604
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M72-102
Authorized Signature: [signature]
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 30, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M73-1021	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers 11/19/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 30, 2021 — Sample Date

12:00 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67605

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M73-1021

Authorized Signature: Alex Thomas

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 30, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M74-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 30, 2021 — Sample Date
13:00 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67606

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M74-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M77-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 28, 2021 | 13:42 (24 hour clock)
Sample Date | Sample Time

____
Owner/Contact Person

____
Owner/Contact Fax Number

____
Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67607
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M77-1021
Authorized Signature: [signature]
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M78-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 28, 2021 — Sample Date

11:18 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67608

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M78-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 25, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD03-1021	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/19/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 25, 2021 — Sample Date

13:30 (24 hour clock) — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67609

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD03-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 25, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M79-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 25, 2021 — Sample Date

13:30 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67610

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M79-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W301-1021	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/19/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 28, 2021 — Sample Date

14:32 — Sample Time (24 hour clock)

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67611

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W301-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W302-1021	0.6 ± 0.2	< 0.6	0.6 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 28, 2021 — Sample Date
11:58 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67612
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W302-1021
Authorized Signature: [signature]
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W303-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 28, 2021 15:20 (24 hour clock)

Sample Date Sample Time

Owner/Contact Person ______________

Owner/Contact Fax Number ______________

Owner/Contact Phone Number ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67613

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W303-2021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W304-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

October 28, 2021 — Sample Date
10:25 (24 hour clock) — Sample Time
Owner/Contact Person: ______

Owner/Contact Fax Number: ______
Owner/Contact Phone Number: ______

Sample Collection Point
☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______
Date Q2 collected: ______
Date Q3 collected: ______
Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67614
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W304-1021
Authorized Signature: [signature]
Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W305-1021	0.5 ± 0.2	< 0.6	0.5 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 28, 2021 — Sample Date

9:28 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.5 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67615

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W305-2021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 29, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W306-1021	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 29, 2021 — Sample Date | 10:26 — Sample Time (24 hour clock) | ______________ Owner/Contact Person

______________ Owner/Contact Fax Number | ______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67616

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W306-2021

Authorized Signature: Aly Urm

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W307R-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers — 11/19/2021
Alex Myers, Ph.D. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 28, 2021 — Sample Date
9:17 — Sample Time (24 hour clock)

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

\>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

\>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67617

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W307R-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W308-1021	0.4 ± 0.2	0.9 ± 0.3	1.3 ± 0.4

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 28, 2021 | 8:13 (24 hour clock)

Sample Date | Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	1.3 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.9 ± 0.3	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67618

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W308-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 27, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W309-1021	0.4 ± 0.1	< 0.6	0.4 ± 0.1

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 27, 2021 — Sample Date

14:55 (24 hour clock) — Sample Time

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.4 ± 0.1	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.1	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67619

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W309-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 29, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W314-1021	< 0.3	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 29, 2021 Sample Date

15:30 Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67620

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W314-1021

Authorized Signature: Ally Umm

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 21, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W317-1021	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________

October 21, 2021 Sample Date | 15:30 Sample Time (24 hour clock) | ______________ Owner/Contact Person

______________ Owner/Contact Fax Number | ______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67621

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W317-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 28, 2021
Sample Received: November 01, 2021
Analysis Completed: November 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD04-1021	< 0.3	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 28, 2021 | 9:17 (24 hour clock)
Sample Date | Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________
☐ Quarterly — Date Q2 collected: ____________
☐ Composite of four quarterly samples — Date Q3 collected: ____________
Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67622
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-FD04-1021
Authorized Signature: [signature]
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street | 85225 | Chandler, Arizona

Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (BAP)

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-M52-1021	10/29/2021	11:28	GW						X	X	X					67598
CH-CCR-M53-1021	10/28/2021	16:18	GW						X	X	X					67599
CH-CCR-M55-1021	10/27/2021	15:47	GW						X	X	X					67600
CH-CCR-M69-1021	10/29/2021	12:28	GW						X	X	X					67601
CH-CCR-M70-1021	10/29/2021	14:28	GW						X	X	X					67602
CH-CCR-M71-1021	10/30/2021	11:08	GW						X	X	X					67603
CH-CCR-M72-1021	10/30/2021	9:54	GW						X	X	X					67604
CH-CCR-M73-1021	10/30/2021	12:00	GW						X	X	X					67605
CH-CCR-M74-1021	10/30/2021	13:00	GW						X	X	X					67606
CH-CCR-M77-1021	10/28/2021	13:42	GW						X	X	X					67607

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:
PO #: 300588231

Instructions/Comments
Method HPGe

Relinguished By: Adam Ramirez	Company: Wood	Date/time: 11-1-21 4:05	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Client Information				Radiation Safety Engineering, Inc.
Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241			3245 North Washington Street · Chandler, Arizona · 85225
Company	Arizona Public Service			**Analysis Request**
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032			
Phone	928-587-0319			
Site	APS Cholla Power Plant (BAP)			

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-M78-1021	10/28/2021	11:18	GW						X	X	X				67608	
CH-CCR-FD03-1021	10/25/2021	13:30	GW						X	X	X				67609	
CH-CCR-M79-1021	10/25/2021	13:30	GW						X	X	X				67610	
CH-CCR-W301-1021	10/28/2021	14:32	GW						X	X	X				67611	
CH-CCR-W302-1021	10/28/2021	11:58	GW						X	X	X				67612	
CH-CCR-W303-1021	10/28/2021	15:20	GW						X	X	X				67613	
CH-CCR-W304-1021	10/28/2021	10:25	GW						X	X	X				67614	
CH-CCR-W305-1021	10/28/2021	9:28	GW						X	X	X				67615	
CH-CCR-W306-1021	10/29/2021	10:26	GW						X	X	X				67616	
CH-CCR-W307R-1021	10/28/2021	9:17	GW						X	X	X				67617	

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers		PO #: 300588231	**Method HPGe**
Chain of Custody Seals			
Container Condition			
Lab No.			

Relinquished By: Adam Ramirez	Company: Wood	Date/time: 11-1-21 1405	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (BAP)**

Radiation Safety Engineering, Inc.

3245 North Washington Street
Chandler, Arizona
85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-W308-1021	10/28/2021	8:13	**GW**						X	X	X				67618	
CH-CCR-W309-1021	10/27/2021	14:55	**GW**						X	X	X				67619	
CH-CCR-W314-1021	10/29/2021	15:30	**GW**						X	X	X				67620	
CH-CCR-W317-1021	10/21/2021	15:30	**GW**						X	X	X				67621	
CH-CCR-FD04-1021	10/28/2021	9:17	**GW**						X	X	X				67622	

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers		PO #: 300588231	**Method HPGe**
Chain of Custody Seals			
Container Condition			
Lab No.			

Relinquished By: Adam Ramirez	Company: Wood	Date/time: 11-1-21 14:05	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

ANALYTICAL REPORT

Eurofins Southwest, Phoenix
4645 East Cotton Center Boulevard
Building #3 Suite #189
Phoenix, AZ 85040
Tel: (866)772-5227

Laboratory Job ID: 550-175274-1
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 53999
M/S 9307
Phoenix, Arizona 85072-3999

Attn: Judy Heywood

Authorized for release by:
1/3/2022 4:53:47 PM
Rachelle Ferguson, Project Manager I
(602)437-3340
fergusonr@eurofinset.com

Designee for

Rachel Sester, Project Manager I
(602)659-7615
Rachel.Sester@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Qualifiers

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-175274-1

Laboratory: Eurofins Southwest, Phoenix

Narrative

Job Narrative
550-175274-1

Comments
Revised Report 1

Revision
The report being provided is a revision of the original report sent on 12/19/2021. The report (revision 1) is being revised due to: Incorrect sample date on samples 3 and 4 - Date changed from 12/1/21 to 12/2/21.

Receipt
The samples were received on 12/6/2021 4:11 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.9º C.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-175274-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-175274-1	CH-CRT-W307R-1221	Water	12/01/21 13:38	12/06/21 16:11
550-175274-2	CH-CRT2-W307R-1221	Water	12/01/21 17:39	12/06/21 16:11
550-175274-3	CH-CRT3-W307R-1221	Water	12/02/21 01:06	12/06/21 16:11
550-175274-4	CH-CRT4-W307R-1221	Water	12/02/21 07:08	12/06/21 16:11

Detection Summary

Client: Arizona Public Service Company	Job ID: 550-175274-1
Project/Site: CCR Groundwater Monitoring

Client Sample ID: CH-CRT-W307R-1221 Lab Sample ID: 550-175274-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.063		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA

Client Sample ID: CH-CRT2-W307R-1221 Lab Sample ID: 550-175274-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.062		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA

Client Sample ID: CH-CRT3-W307R-1221 Lab Sample ID: 550-175274-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.066		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA

Client Sample ID: CH-CRT4-W307R-1221 Lab Sample ID: 550-175274-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	2.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Cobalt	0.066		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-175274-1

Client Sample ID: CH-CRT-W307R-1221
Lab Sample ID: 550-175274-1
Date Collected: 12/01/21 13:38
Matrix: Water
Date Received: 12/06/21 16:11

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.7		0.050	0.0025	mg/L		12/07/21 10:00	12/10/21 19:08	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.063		0.00050	0.000063	mg/L		12/07/21 07:47	12/08/21 19:45	1

Client Sample ID: CH-CRT2-W307R-1221
Lab Sample ID: 550-175274-2
Date Collected: 12/01/21 17:39
Matrix: Water
Date Received: 12/06/21 16:11

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.7		0.050	0.0025	mg/L		12/07/21 10:00	12/10/21 19:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.062		0.00050	0.000063	mg/L		12/07/21 07:47	12/08/21 19:47	1

Client Sample ID: CH-CRT3-W307R-1221
Lab Sample ID: 550-175274-3
Date Collected: 12/02/21 01:06
Matrix: Water
Date Received: 12/06/21 16:11

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.7		0.050	0.0025	mg/L		12/07/21 10:00	12/10/21 19:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.066		0.00050	0.000063	mg/L		12/07/21 07:47	12/08/21 19:49	1

Client Sample ID: CH-CRT4-W307R-1221
Lab Sample ID: 550-175274-4
Date Collected: 12/02/21 07:08
Matrix: Water
Date Received: 12/06/21 16:11

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	2.6		0.050	0.0025	mg/L		12/07/21 10:00	12/10/21 19:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.066		0.00050	0.000063	mg/L		12/07/21 07:47	12/08/21 19:51	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-260483/1-A
Matrix: Water
Analysis Batch: 260985

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 260483

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		12/07/21 10:00	12/10/21 18:52	1

Lab Sample ID: LCS 550-260483/2-A
Matrix: Water
Analysis Batch: 260985

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 260483

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-260483/3-A
Matrix: Water
Analysis Batch: 260985

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 260483

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.990		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-175274-2 MS
Matrix: Water
Analysis Batch: 260985

Client Sample ID: CH-CRT2-W307R-1221
Prep Type: Total/NA
Prep Batch: 260483

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	2.7		1.00	3.53		mg/L		85	70 - 130

Lab Sample ID: 550-175274-2 MSD
Matrix: Water
Analysis Batch: 260985

Client Sample ID: CH-CRT2-W307R-1221
Prep Type: Total/NA
Prep Batch: 260483

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	2.7		1.00	3.55		mg/L		87	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-260459/1-A
Matrix: Water
Analysis Batch: 260729

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 260459

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0000870	E4	0.00050	0.000063	mg/L		12/07/21 07:47	12/08/21 19:32	1

Lab Sample ID: LCS 550-260459/2-A
Matrix: Water
Analysis Batch: 260729

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 260459

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.0962		mg/L		96	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-260459/3-A
Matrix: Water
Analysis Batch: 260729

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 260459

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt			0.100	0.0967		mg/L		97	85 - 115	1	20

Lab Sample ID: 550-175266-H-3-A MS
Matrix: Water
Analysis Batch: 260729

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 260459

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt	0.00079		0.100	0.0918		mg/L		91	70 - 130		

Lab Sample ID: 550-175266-H-3-B MSD
Matrix: Water
Analysis Batch: 260729

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 260459

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.00079		0.100	0.0918		mg/L		91	70 - 130	0	20

Metals

Prep Batch: 260459

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-175274-1	CH-CRT-W307R-1221	Total/NA	Water	200.8	
550-175274-2	CH-CRT2-W307R-1221	Total/NA	Water	200.8	
550-175274-3	CH-CRT3-W307R-1221	Total/NA	Water	200.8	
550-175274-4	CH-CRT4-W307R-1221	Total/NA	Water	200.8	
MB 550-260459/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-260459/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-260459/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-175266-H-3-A MS	Matrix Spike	Total/NA	Water	200.8	
550-175266-H-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 260483

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-175274-1	CH-CRT-W307R-1221	Total/NA	Water	200.7	
550-175274-2	CH-CRT2-W307R-1221	Total/NA	Water	200.7	
550-175274-3	CH-CRT3-W307R-1221	Total/NA	Water	200.7	
550-175274-4	CH-CRT4-W307R-1221	Total/NA	Water	200.7	
MB 550-260483/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-260483/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-260483/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-175274-2 MS	CH-CRT2-W307R-1221	Total/NA	Water	200.7	
550-175274-2 MSD	CH-CRT2-W307R-1221	Total/NA	Water	200.7	

Analysis Batch: 260729

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-175274-1	CH-CRT-W307R-1221	Total/NA	Water	200.8 LL	260459
550-175274-2	CH-CRT2-W307R-1221	Total/NA	Water	200.8 LL	260459
550-175274-3	CH-CRT3-W307R-1221	Total/NA	Water	200.8 LL	260459
550-175274-4	CH-CRT4-W307R-1221	Total/NA	Water	200.8 LL	260459
MB 550-260459/1-A	Method Blank	Total/NA	Water	200.8 LL	260459
LCS 550-260459/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	260459
LCSD 550-260459/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	260459
550-175266-H-3-A MS	Matrix Spike	Total/NA	Water	200.8 LL	260459
550-175266-H-3-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	260459

Analysis Batch: 260985

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-175274-1	CH-CRT-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483
550-175274-2	CH-CRT2-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483
550-175274-3	CH-CRT3-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483
550-175274-4	CH-CRT4-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483
MB 550-260483/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	260483
LCS 550-260483/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	260483
LCSD 550-260483/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	260483
550-175274-2 MS	CH-CRT2-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483
550-175274-2 MSD	CH-CRT2-W307R-1221	Total/NA	Water	200.7 Rev 4.4	260483

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-175274-1

Client Sample ID: CH-CRT-W307R-1221

Lab Sample ID: 550-175274-1

Date Collected: 12/01/21 13:38

Matrix: Water

Date Received: 12/06/21 16:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			260483	12/07/21 10:00	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	260985	12/10/21 19:08	MGM	TAL PHX
Total/NA	Prep	200.8			260459	12/07/21 07:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	260729	12/08/21 19:45	ARE	TAL PHX

Client Sample ID: CH-CRT2-W307R-1221

Lab Sample ID: 550-175274-2

Date Collected: 12/01/21 17:39

Matrix: Water

Date Received: 12/06/21 16:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			260483	12/07/21 10:00	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	260985	12/10/21 19:05	MGM	TAL PHX
Total/NA	Prep	200.8			260459	12/07/21 07:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	260729	12/08/21 19:47	ARE	TAL PHX

Client Sample ID: CH-CRT3-W307R-1221

Lab Sample ID: 550-175274-3

Date Collected: 12/02/21 01:06

Matrix: Water

Date Received: 12/06/21 16:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			260483	12/07/21 10:00	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	260985	12/10/21 19:10	MGM	TAL PHX
Total/NA	Prep	200.8			260459	12/07/21 07:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	260729	12/08/21 19:49	ARE	TAL PHX

Client Sample ID: CH-CRT4-W307R-1221

Lab Sample ID: 550-175274-4

Date Collected: 12/02/21 07:08

Matrix: Water

Date Received: 12/06/21 16:11

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			260483	12/07/21 10:00	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	260985	12/10/21 19:13	MGM	TAL PHX
Total/NA	Prep	200.8			260459	12/07/21 07:47	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	260729	12/08/21 19:51	ARE	TAL PHX

Laboratory References:

TAL PHX = Eurofins Southwest, Phoenix, 4645 East Cotton Center Boulevard, Building #3 Suite #189, Phoenix, AZ 85040, TEL (866)772-5227

Accreditation/Certification Summary

Laboratory: Eurofins Southwest, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method Summary

Method	Method Description	Protocol	Laboratory
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.
EPA = US Environmental Protection Agency

Laboratory References:

TAL PHX = Eurofins Southwest, Phoenix, 4645 East Cotton Center Boulevard, Building #3 Suite #189, Phoenix, AZ 85040, TEL (866)772-5227

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

175274

TestAmerica — THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact		
Arizona Public Service	Natalie Chrisman	Jim Edwards / (928) 288-1241
4801 Cholla Lake Rd	(602) 250-3608	Lab Contact: Ken Baker
Joseph City, AZ 86032	Analysis Turnaround Time: ☑ CALENDAR DAYS ☑ WORKING DAYS	Date:
(928) 587-0319 Phone	TAT if different from Below ______	Carrier:
FAX	☑ 2 weeks	COC No:
Project Name: CCR Groundwater Monitoring	☐ 1 week	__1__ of __1__ COCs
Site: APS Cholla Power Plant (BAP)	☐ 2 days	Sampler:
PO #: 300588233	☐ 1 day	For Lab Use Only: Walk-in Client: Lab Sampling: Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 200.7 - Totals (B)	EPA 200.8 - Totals (Co)	Sample Specific Notes:
CH-CRT-W307R-1221	12/1/2021	13:38	G	W	1	N	N	X	X	-01 CRT test port sample
CH-CRT2-W307R-1221	12/1/2021	17:39	G	W	1	N	N	X	X	-02 "
CH-CRT3-W307R-1221	12/2/2021	01:06	G	W	1	N	N	X	X	-03 "
CH-CRT4-W307R-1221	12/2/2021	07:08	G	W	1	N	N	X	X	-04 "

550-175274 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ | 4 | 4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return to Client ☑ Disposal by Lab ☐ Archive for_______ Months

Special Instructions/QC Requirements & Comments:

4.9°c NO ICE COO

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:_____ Corr'd:_____ Therm ID No.:_____		
Relinquished by: Jesse Torres	Company: Wood	Date/Time: 12/06/21 16:11	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [illegible]	Company: [illegible]	Date/Time: 12/7/21 1411

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Login Sample Receipt Checklist

Client: Arizona Public Service Company | Job Number: 550-175274-1

Login Number: 175274 | **List Source: Eurofins Southwest, Phoenix**
List Number: 1
Creator: Gravlin, Andrea

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

eurofins

Environment Testing
America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-156051-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
County Road 6675, Stn 4915
Fruitland, New Mexico 87416

Attn: Natalie Chrisman

Authorized for release by:
2/4/2021 4:46:50 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Job ID: 550-156051-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-156051-1

Comments
No additional comments.

Receipt
The samples were received on 1/11/2021 8:14 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3º C.

HPLC/IC
Method 300.0: A matrix spike / matrix spike duplicate (MS/MSD) was not prepared for Anions by method EPA 300.0 associated with analytical batch 550-231854 due to an analyst error. The results for the associated laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were within acceptance limits which may be used to verify batch accuracy and precision. As such, these data have been reported and qualified with N1 flags.

EW04-010521 (550-156051-1) and EW02-018521 (550-156051-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-230325 contained Molybdenum above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-156051-1	EW04-010521	Water	01/05/21 19:38	01/11/21 08:14	
550-156051-2	EW02-018521	Water	01/08/21 20:19	01/11/21 08:14	

Client Sample ID: EW04-010521 Lab Sample ID: 550-156051-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	3.9		0.40	0.047	mg/L	1		300.0	Total/NA
Chloride	4900	D2	200	52	mg/L	100		300.0	Total/NA
Sulfate	3000	D2	100	21	mg/L	50		300.0	Total/NA
Potassium	29		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.089	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.43		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0043		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0024		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.48	B3	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	51		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	51		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: EW02-018521 Lab Sample ID: 550-156051-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.6		0.40	0.047	mg/L	1		300.0	Total/NA
Chloride	4000	D2 N1	40	10	mg/L	20		300.0	Total/NA
Sulfate	3300	D2	100	21	mg/L	50		300.0	Total/NA
Potassium	11		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	330		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.62		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0034		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.038	B3	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: EW04-010521

Lab Sample ID: 550-156051-1
Matrix: Water

Date Collected: 01/05/21 19:38
Date Received: 01/11/21 08:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.9		0.40	0.047	mg/L			01/27/21 06:11	1
Chloride	4900	D2	200	52	mg/L			02/02/21 23:51	100
Sulfate	3000	D2	100	21	mg/L			01/21/21 06:35	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	29		0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:27	1
Calcium	770		2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:27	1
Iron	0.089	E4	0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:41	1
Magnesium	200		2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:27	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.43		0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 15:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0043		0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 12:13	1
Cobalt	0.0024		0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:53	1
Molybdenum	0.48	B3	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	51		6.0	6.0	mg/L			01/13/21 11:37	1
Bicarbonate Alkalinity as CaCO3	51		6.0	6.0	mg/L			01/13/21 11:37	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Total Dissolved Solids	12000	D2	200	200	mg/L			01/12/21 10:03	1

Client Sample ID: EW02-018521

Lab Sample ID: 550-156051-2
Matrix: Water

Date Collected: 01/08/21 20:19
Date Received: 01/11/21 08:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.6		0.40	0.047	mg/L			01/21/21 08:24	1
Chloride	4000	D2 N1	40	10	mg/L			01/30/21 03:41	20
Sulfate	3300	D2	100	21	mg/L			01/21/21 08:52	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	11		0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:31	1
Calcium	730		2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:31	1
Iron	0.37		0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:45	1
Magnesium	330		2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:31	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.62		0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 15:09	1

Client Sample Results

Client Sample ID: EW02-018521
Lab Sample ID: 550-156051-2
Date Collected: 01/08/21 20:19
Matrix: Water
Date Received: 01/11/21 08:14

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0034**		0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 12:15	1
Cobalt	**0.0011**		0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:55	1
Molybdenum	**0.038**	**B3**	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			01/13/21 11:53	1
Bicarbonate Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			01/13/21 11:53	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Total Dissolved Solids	**11000**	**D2**	100	100	mg/L			01/12/21 10:03	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-230935/31
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/21/21 01:06	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/21/21 01:06	1

Lab Sample ID: LCS 550-230935/32
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-230935/33
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.15		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	1	20

Lab Sample ID: 550-156250-A-4 MS
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.67		4.00	4.73		mg/L		101	80 - 120
Sulfate	260	E2 M3	20.0	264	E2 M3	mg/L		37	80 - 120

Lab Sample ID: 550-156250-A-4 MSD
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.67		4.00	4.89		mg/L		105	80 - 120	3	20
Sulfate	260	E2 M3	20.0	264	E2 M3	mg/L		39	80 - 120	0	20

Lab Sample ID: MB 550-231716/2
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/26/21 19:40	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/26/21 19:40	1

Lab Sample ID: LCS 550-231716/5
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.03		mg/L		101	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 550-231716/6
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-155697-A-1 MS ^10
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.9	E4	40.0	43.0	D1	mg/L		103	80 - 120
Sulfate	1200	D2 M3	200	1420	D2 M3	mg/L		90	80 - 120

Lab Sample ID: 550-155697-A-1 MSD ^10
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.9	E4	40.0	42.2	D1	mg/L		101	80 - 120	2	20
Sulfate	1200	D2 M3	200	1410	D2 M3	mg/L		85	80 - 120	1	20

Lab Sample ID: MB 550-231854/29
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/30/21 00:29	1
Chloride	ND	E8	2.0	0.52	mg/L			01/30/21 00:29	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/30/21 00:29	1

Lab Sample ID: LCS 550-231854/30
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride			4.00	3.95		mg/L		99	90 - 110
Chloride			20.0	18.7		mg/L		94	90 - 110
Sulfate			20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-231854/54
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	3.99		mg/L		100	90 - 110	1	20
Chloride			20.0	18.2		mg/L		91	90 - 110	3	20
Sulfate			20.0	18.5		mg/L		93	90 - 110	9	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-232140/4
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			02/02/21 14:02	1
Chloride	ND	E8	2.0	0.52	mg/L			02/02/21 14:02	1
Sulfate	ND	E8	2.0	0.43	mg/L			02/02/21 14:02	1

Lab Sample ID: LCS 550-232140/7
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.37		mg/L		109	90 - 110
Chloride	20.0	22.0		mg/L		110	90 - 110
Sulfate	20.0	21.6		mg/L		108	90 - 110

Lab Sample ID: LCSD 550-232140/8
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.35		mg/L		109	90 - 110	0	20
Chloride	20.0	22.0		mg/L		110	90 - 110	0	20
Sulfate	20.0	21.7		mg/L		109	90 - 110	0	20

Lab Sample ID: 550-156083-F-11 MS
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	E8	4.00	4.54		mg/L		114	80 - 120
Chloride	1.3	E4	20.0	23.8		mg/L		112	80 - 120
Sulfate	1.4	E4	20.0	23.4		mg/L		110	80 - 120

Lab Sample ID: 550-156083-F-11 MSD
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	E8	4.00	4.60		mg/L		115	80 - 120	1	20
Chloride	1.3	E4	20.0	24.1		mg/L		114	80 - 120	1	20
Sulfate	1.4	E4	20.0	23.7		mg/L		111	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-230118/1-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:04	1
Calcium	ND	E8	2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:04	1
Magnesium	ND	E8	2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:04	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-230118/1-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:18	1

Lab Sample ID: LCS 550-230118/2-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	20.0	18.3		mg/L		92	85 - 115
Calcium	21.0	19.6		mg/L		93	85 - 115
Magnesium	21.0	19.3		mg/L		92	85 - 115

Lab Sample ID: LCS 550-230118/2-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.983		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-230118/3-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	20.0	18.7		mg/L		94	85 - 115	2	20
Calcium	21.0	20.1		mg/L		96	85 - 115	2	20
Magnesium	21.0	19.6		mg/L		93	85 - 115	2	20

Lab Sample ID: LCSD 550-230118/3-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.00		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-156062-G-1-A MS
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	8.4		20.0	28.0		mg/L		98	70 - 130
Calcium	150		21.0	169	M3	mg/L		82	70 - 130
Magnesium	38		21.0	56.6		mg/L		90	70 - 130

Lab Sample ID: 550-156062-G-1-A MS
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.18		1.00	1.21		mg/L		103	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-156062-G-1-B MSD
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	8.4		20.0	28.3		mg/L		99	70 - 130	1	20
Calcium	150		21.0	172	M3	mg/L		93	70 - 130	1	20
Magnesium	38		21.0	57.2		mg/L		93	70 - 130	1	20

Lab Sample ID: 550-156062-G-1-B MSD
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.18		1.00	1.22		mg/L		104	70 - 130	1	20

Lab Sample ID: MB 280-523632/1-A
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 14:45	1

Lab Sample ID: LCS 280-523632/2-A
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.00		mg/L		100	90 - 112

Lab Sample ID: 280-144537-F-1-B MS
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.25		1.00	1.28		mg/L		103	70 - 130

Lab Sample ID: 280-144537-F-1-C MSD
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.25		1.00	1.27		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-230094/1-A
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230094

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:17	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:17	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-230094/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230389 — **Prep Batch: 230094**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 11:41	1

Lab Sample ID: LCS 550-230094/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230325 — **Prep Batch: 230094**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.101		mg/L		101	85 - 115
Molybdenum	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCS 550-230094/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230389 — **Prep Batch: 230094**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.103		mg/L		103	85 - 115

Lab Sample ID: LCSD 550-230094/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230325 — **Prep Batch: 230094**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.100	0.0985		mg/L		98	85 - 115	2	20
Molybdenum	0.100	0.102		mg/L		102	85 - 115	0	20

Lab Sample ID: LCSD 550-230094/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230389 — **Prep Batch: 230094**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.102		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-155849-G-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230325 — **Prep Batch: 230094**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	ND	E8	0.100	0.0963		mg/L		96	70 - 130
Molybdenum	0.00098		0.100	0.107		mg/L		106	70 - 130

Lab Sample ID: 550-155849-G-1-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 230389 — **Prep Batch: 230094**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0077		0.100	0.112		mg/L		104	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-155849-G-1-B MSD
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	ND	E8	0.100	0.0979		mg/L		98	70 - 130	2	20
Molybdenum	0.00098		0.100	0.106		mg/L		105	70 - 130	0	20

Lab Sample ID: 550-155849-G-1-B MSD
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0077		0.100	0.110		mg/L		102	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-230318/5
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1

Lab Sample ID: LCS 550-230318/4
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	244		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-230318/17
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-156051-1 DU
Matrix: Water
Analysis Batch: 230318

Client Sample ID: EW04-010521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	51		51.3		mg/L		0	20
Bicarbonate Alkalinity as CaCO3	51		51.3		mg/L		0	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-230124/1
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			01/12/21 10:03	1

Lab Sample ID: LCS 550-230124/2
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	928		mg/L		93	90 - 110

Lab Sample ID: LCSD 550-230124/3
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	936		mg/L		94	90 - 110	1	10

Lab Sample ID: 550-156049-A-1 DU
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	800		798		mg/L		0.5	10

Lab Sample ID: 550-156051-1 DU
Matrix: Water
Analysis Batch: 230124

Client Sample ID: EW04-010521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000	D2	10800	D2	mg/L		7	10

HPLC/IC

Analysis Batch: 230935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
550-156051-2	EW02-018521	Total/NA	Water	300.0	
550-156051-2	EW02-018521	Total/NA	Water	300.0	
MB 550-230935/31	Method Blank	Total/NA	Water	300.0	
LCS 550-230935/32	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-230935/33	Lab Control Sample Dup	Total/NA	Water	300.0	
550-156250-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-156250-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 231716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
MB 550-231716/2	Method Blank	Total/NA	Water	300.0	
LCS 550-231716/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-231716/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-155697-A-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-155697-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 231854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-2	EW02-018521	Total/NA	Water	300.0	
MB 550-231854/29	Method Blank	Total/NA	Water	300.0	
LCS 550-231854/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-231854/54	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 232140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
MB 550-232140/4	Method Blank	Total/NA	Water	300.0	
LCS 550-232140/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-232140/8	Lab Control Sample Dup	Total/NA	Water	300.0	
550-156083-F-11 MS	Matrix Spike	Total/NA	Water	300.0	
550-156083-F-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 230094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8	
550-156051-2	EW02-018521	Total/NA	Water	200.8	
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 230118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7	
550-156051-2	EW02-018521	Total/NA	Water	200.7	
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 230118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 230325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8 LL	230094
550-156051-2	EW02-018521	Total/NA	Water	200.8 LL	230094
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8 LL	230094
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230094
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230094
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	230094
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	230094

Analysis Batch: 230330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7 Rev 4.4	230118
550-156051-2	EW02-018521	Total/NA	Water	200.7 Rev 4.4	230118
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	230118
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	230118
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	230118

Analysis Batch: 230389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8 LL	230094
550-156051-2	EW02-018521	Total/NA	Water	200.8 LL	230094
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8 LL	230094
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230094
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230094
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	230094
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	230094

Analysis Batch: 230435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7 Rev 4.4	230118
550-156051-2	EW02-018521	Total/NA	Water	200.7 Rev 4.4	230118
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	230118
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	230118
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	230118

Prep Batch: 523632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total Recoverable	Water	200.7	
550-156051-2	EW02-018521	Total Recoverable	Water	200.7	
MB 280-523632/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 280-523632/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Metals (Continued)

Prep Batch: 523632 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144537-F-1-B MS	Matrix Spike	Total Recoverable	Water	200.7	
280-144537-F-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 524080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total Recoverable	Water	200.7 Rev 4.4	523632
550-156051-2	EW02-018521	Total Recoverable	Water	200.7 Rev 4.4	523632
MB 280-523632/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	523632
LCS 280-523632/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	523632
280-144537-F-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	523632
280-144537-F-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	523632

General Chemistry

Analysis Batch: 230124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	SM 2540C	
550-156051-2	EW02-018521	Total/NA	Water	SM 2540C	
MB 550-230124/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-230124/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-230124/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-156049-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-156051-1 DU	EW04-010521	Total/NA	Water	SM 2540C	

Analysis Batch: 230318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	SM 2320B	
550-156051-2	EW02-018521	Total/NA	Water	SM 2320B	
MB 550-230318/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-230318/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-230318/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-156051-1 DU	EW04-010521	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: EW04-010521

Lab Sample ID: 550-156051-1

Date Collected: 01/05/21 19:38
Date Received: 01/11/21 08:14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	232140	02/02/21 23:51	JRP	TAL PHX
Total/NA	Analysis	300.0		50	230935	01/21/21 06:35	JRP	TAL PHX
Total/NA	Analysis	300.0		1	231716	01/27/21 06:11	JRP	TAL PHX
Total Recoverable	Prep	200.7			523632	01/18/21 08:00	MAB	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	524080	01/19/21 15:06	LMT	TAL DEN
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230330	01/13/21 21:27	MGM	TAL PHX
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230435	01/14/21 15:41	MGM	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230325	01/13/21 19:53	ARE	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230389	01/14/21 12:13	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	230318	01/13/21 11:37	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	230124		YET	TAL PHX
					(Start)	01/12/21 10:03		
					(End)	01/13/21 08:50		

Client Sample ID: EW02-018521

Lab Sample ID: 550-156051-2

Date Collected: 01/08/21 20:19
Date Received: 01/11/21 08:14

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	231854	01/30/21 03:41	JRP	TAL PHX
Total/NA	Analysis	300.0		1	230935	01/21/21 08:24	JRP	TAL PHX
Total/NA	Analysis	300.0		50	230935	01/21/21 08:52	JRP	TAL PHX
Total Recoverable	Prep	200.7			523632	01/18/21 08:00	MAB	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	524080	01/19/21 15:09	LMT	TAL DEN
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230330	01/13/21 21:31	MGM	TAL PHX
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230435	01/14/21 15:45	MGM	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230325	01/13/21 19:55	ARE	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230389	01/14/21 12:15	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	230318	01/13/21 11:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	230124		YET	TAL PHX
					(Start)	01/12/21 10:03		
					(End)	01/13/21 08:50		

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Job ID: 550-156051-1
Project/Site: CCR Groundwater Monitoring
SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-21
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-20 *
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-21
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-21
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-21 *
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	12-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-21 *
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	02-28-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Recoverable Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

156051

TestAmerica — THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319	TAT if different from Below ____			Walk-in Client:
	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
Project #:	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (Ca, Li, Fe, Mg, K)	2320B - All forms of alkalinity	EPA 200.8 - Totals (As, Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
EW04-010521	1/5/2021	19:38	G	W	2	N	N	X	X	X	X	X	-01 Port sample
EW02-010821	1/8/2021	20:19	G	W	2	N	N	X	X	X	X	X	-02 "
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	4	1	4	1	

550-156051 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by: (Mari Wuollet)	Company: Wood	Date/Time: 1-11-21/08:14	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: E-TA Phx	Date/Time: 1-11-21 8:44

2.3°c

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29623.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Arizona		Job #: 550-156051-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/22/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55014797			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; E - NaHSO4; F - MeOH; G - Amchlor; H - Ascorbic Acid; I - Ice; J - DI Water; K - EDTA; L - EDA
M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TR ICP Lithium	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
EW04-010521 (550-156051-1)	1/5/21	19:38 Arizona		Water			X	1	
EW02-018521 (550-156051-2)	1/8/21	20:19 Arizona		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: [signature] 01-11-21	Date/Time: 15:35	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: Jesper Jorgensen	Date/Time: 01/12/2021 10:30	Company: ETA DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9, CF: +0.2, IR: 9		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156051-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 156051
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156051-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 156051
List Number: 2
Creator: Soerensen, Jesper

List Source: Eurofins TestAmerica, Denver
List Creation: 01/12/21 02:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-162157-1
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
5/4/2021 4:13:48 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
B1	Target analyte detected in method blank at or above the method reporting limit.
B3	Target analyte detected in calibration blank at or above the method reporting limit.
B7	Target analyte detected in method blank at or above method reporting limit. Concentration found in the sample was 10 times above the concentration found in the blank.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
L3	The associated blank spike recovery was above method acceptance limits.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H1	Sample analysis performed past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-162157-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-162157-1

Comments
No additional comments.

Receipt
The samples were received on 4/19/2021 10:41 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 5 coolers at receipt time were 3.0º C, 3.3º C, 4.0º C, 4.2º C and 5.8º C.

HPLC/IC
Method 300.0: The following source sample for the matrix spike / matrix spike duplicate (MS/MSD) was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-M44D-0421 (550-162157-3). An elevated reporting limit (RL) has been provided.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-M46-0421 (550-162157-5). This analyte was not detected in the diluted sample. As such, an elevated reporting limit (RL) has been provided.

Method 300.0: The following sample was diluted for Fluoride due to the nature of the sample matrix: CH-CCR-M43-0421 (550-162157-1). As such, an elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-240469 contained Arsenic above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The method blank for preparation batch 550-239926 and analytical batch 550-240432 contained Sodium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-W126-0421 (550-162157-23), CH-CCR-GeronC-0421 (550-162157-25) and CH-CCR-GeronD-0421 (550-162157-26). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-241021 contained Thallium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.8 LL: The laboratory control sample (LCS) associated with preparation batch 550-240803 and analytical batch 550-241021 was outside acceptance criteria for Barium. The batch matrix spike/matrix spike duplicate (MS/MSD) was within acceptance limits and may be used to evaluate matrix performance.

Method 200.8 LL: The following samples were diluted due to the nature of the sample matrix: CH-CCR-M43-0421 (550-162157-2), CH-CCR-M46-0421 (550-162157-6), CH-CCR-M50-0421 (550-162157-8), CH-CCR-M51-0421 (550-162157-10), CH-CCR-M64-0421 (550-162157-13), CH-CCR-M65-0421 (550-162157-15), CH-CCR-M66-0421 (550-162157-17), CH-CCR-M67-0421 (550-162157-19), CH-CCR-W123-0421 (550-162157-21), CH-CCR-W126-0421 (550-162157-24), CH-CCR-HuntB-0421 (550-162157-27) and CH-CCR-FD05-0421 (550-162157-28). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry

Job ID: 550-162157-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

Method SM 2540C:

Method SM 2540C: Reanalysis of the following sample(s) was performed outside of the analytical holding time due to wrong aliquot used for sample, which made result >0.2. Reran sample with correct aliquot. CH-CCR-M50-0421 (550-162157-7).

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-240618 were outside control limits for Total Organic Carbon (TOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-241040 were outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-162157-1	CH-CCR-M43-0421	Water	04/14/21 13:14	04/19/21 10:41	
550-162157-2	CH-CCR-M43-0421	Water	04/14/21 13:14	04/19/21 10:41	
550-162157-3	CH-CCR-M44D-0421	Water	04/16/21 07:50	04/19/21 10:41	
550-162157-4	CH-CCR-M45-0421	Water	04/14/21 11:49	04/19/21 10:41	
550-162157-5	CH-CCR-M46-0421	Water	04/14/21 15:28	04/19/21 10:41	
550-162157-6	CH-CCR-M46-0421	Water	04/14/21 15:28	04/19/21 10:41	
550-162157-7	CH-CCR-M50-0421	Water	04/15/21 13:47	04/19/21 10:41	
550-162157-8	CH-CCR-M50-0421	Water	04/15/21 13:47	04/19/21 10:41	
550-162157-9	CH-CCR-M51-0421	Water	04/15/21 14:29	04/19/21 10:41	
550-162157-10	CH-CCR-M51-0421	Water	04/15/21 14:29	04/19/21 10:41	
550-162157-11	CH-CCR-M63-0421	Water	04/15/21 09:29	04/19/21 10:41	
550-162157-12	CH-CCR-M64-0421	Water	04/15/21 15:48	04/19/21 10:41	
550-162157-13	CH-CCR-M64-0421	Water	04/15/21 15:48	04/19/21 10:41	
550-162157-14	CH-CCR-M65-0421	Water	04/14/21 14:17	04/19/21 10:41	
550-162157-15	CH-CCR-M65-0421	Water	04/14/21 14:17	04/19/21 10:41	
550-162157-16	CH-CCR-M66-0421	Water	04/15/21 07:25	04/19/21 10:41	
550-162157-17	CH-CCR-M66-0421	Water	04/15/21 07:25	04/19/21 10:41	
550-162157-18	CH-CCR-M67-0421	Water	04/14/21 16:25	04/19/21 10:41	
550-162157-19	CH-CCR-M67-0421	Water	04/14/21 16:25	04/19/21 10:41	
550-162157-20	CH-CCR-W123-0421	Water	04/15/21 10:50	04/19/21 10:41	
550-162157-21	CH-CCR-W123-0421	Water	04/15/21 10:50	04/19/21 10:41	
550-162157-22	CH-CCR-W125-0421	Water	04/15/21 12:53	04/19/21 10:41	
550-162157-23	CH-CCR-W126-0421	Water	04/15/21 08:15	04/19/21 10:41	
550-162157-24	CH-CCR-W126-0421	Water	04/15/21 08:15	04/19/21 10:41	
550-162157-25	CH-CCR-GeronC-0421	Water	04/15/21 11:30	04/19/21 10:41	
550-162157-26	CH-CCR-GeronD-0421	Water	04/15/21 12:12	04/19/21 10:41	
550-162157-27	CH-CCR-HuntB-0421	Water	04/15/21 08:40	04/19/21 10:41	
550-162157-28	CH-CCR-FD05-0421	Water	04/16/21 07:50	04/19/21 10:41	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-M43-0421 — Lab Sample ID: 550-162157-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.49	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.25		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.8		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	900		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	3.2		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1100	D2	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Antimony	0.00013	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0031	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.018	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00039	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0011	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.43		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M43-0421 — Lab Sample ID: 550-162157-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.7		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0036	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00036	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M44D-0421 — Lab Sample ID: 550-162157-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.77	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	330	D2 E4	400	85	mg/L	200		300.0	Total/NA
Beryllium	0.00040	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.040		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.25		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	91	M3	2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.021	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0029	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	2300	D2	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	11.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M45-0421 — Lab Sample ID: 550-162157-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	810	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.65	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0036	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.014	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00095	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.016	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00082	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	4200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46-0421 — Lab Sample ID: 550-162157-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6900	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.68	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.66		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1400	D2	4.0	0.026	mg/L	2		200.7 Rev 4.4	Total/NA
Iron	4.4		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	270		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	22		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0059	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.029	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.053	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0010	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.012	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0012	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.84		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	3.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M46-0421 — Lab Sample ID: 550-162157-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.7		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0046	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0013	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.44		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	630		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.13		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	220		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.36		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	8.2		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0040	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0090	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0034	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00045	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0082	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0032	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8100	D2 H1	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.084	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.25		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0051	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00067	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.18	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.46		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	30		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	890		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.51		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3300	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.023	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.010	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0075	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.11	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M51-0421 (Continued)

Lab Sample ID: 550-162157-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.072	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.51		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.024	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00014	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M63-0421

Lab Sample ID: 550-162157-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	450	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.27	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	540	D2	400	85	mg/L	200		300.0	Total/NA
Beryllium	0.00020	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.054		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.24		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	150		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00020	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0028	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.031	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0027	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00036	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1800		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M64-0421

Lab Sample ID: 550-162157-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.21	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.30		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.2		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3800	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0021	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.012	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0049	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0022	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M64-0421 (Continued)

Lab Sample ID: 550-162157-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia	0.88		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	4.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	4.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	4.6	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M64-0421

Lab Sample ID: 550-162157-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	5.9		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0027	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M65-0421

Lab Sample ID: 550-162157-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.54		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	11		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.45		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	300		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.31		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0038	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.017	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.016	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0032	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.076	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0016	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.041	E4	0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M65-0421

Lab Sample ID: 550-162157-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.37		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.27		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0047	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0030	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M66-0421 — Lab Sample ID: 550-162157-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.54		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	290		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Arsenic	0.0030	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.023	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.027	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0017	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.017	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.017	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	10000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M66-0421 — Lab Sample ID: 550-162157-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.81		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0040	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0014	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-M67-0421 — Lab Sample ID: 550-162157-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.61	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.27	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	1600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.18		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.34		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1700	D2	4.0	0.026	mg/L	2		200.7 Rev 4.4	Total/NA
Iron	8.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	320		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	14		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	D2	1.0	0.061	mg/L	2		200.7 Rev 4.4	Total/NA
Arsenic	0.018	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.026	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0040	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0050	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0010	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Job ID: 550-162157-1
Project/Site: CCR Groundwater Monitoring

Client Sample ID: CH-CCR-M67-0421 (Continued) — Lab Sample ID: 550-162157-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ammonia	1.6		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M67-0421 — Lab Sample ID: 550-162157-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	7.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.021	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0043	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W123-0421 — Lab Sample ID: 550-162157-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.85	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.61		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	36		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	870		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.8		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	310		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.16		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	58		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3700	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.0012	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0046	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.23	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0053	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.34	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0029	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W123-0421 — Lab Sample ID: 550-162157-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.24		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.034		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0045	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W123-0421 (Continued) Lab Sample ID: 550-162157-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0013	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-W125-0421 Lab Sample ID: 550-162157-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	730	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.55	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	350	D2 E4	400	85	mg/L	200		300.0	Total/NA
Lithium	0.029		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.18		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	130		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0043	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.022	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00054	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00019	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	1700		20	20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126-0421 Lab Sample ID: 550-162157-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.72		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	790		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.15		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	490		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.16		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	92		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4200	D2	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0038	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0099	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0090	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0040	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.25	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Ammonia	0.20		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	16000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.5	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Dissolved Organic Carbon	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W126-0421 Lab Sample ID: 550-162157-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W126-0421 (Continued) — Lab Sample ID: 550-162157-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.15		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0051	D1	0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.0039	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved

Client Sample ID: CH-CCR-GeronC-0421 — Lab Sample ID: 550-162157-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	7.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5700	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.86		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	68		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	750		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	73		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5500	D2	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00030	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.080	B3	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0066	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.010		0.0040	0.0017	mg/L	4		200.8 LL	Total/NA
Lead	0.023	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.039	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	81		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	20000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	14.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.3		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-GeronD-0421 — Lab Sample ID: 550-162157-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	7.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.73		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	58		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	580		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	58		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4900	D2	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.00015	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0076	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0086	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0038	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0013	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.019	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.038	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00088	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	83		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	83		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	17000	D2	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-GeronD-0421 (Continued)
Lab Sample ID: 550-162157-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-HuntB-0421
Lab Sample ID: 550-162157-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.9	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.49		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	29		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	33		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3000	B7 D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00033	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0029	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.010	D1 L3	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0012	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0042	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.44	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0029	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	64		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	64		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD05-0421
Lab Sample ID: 550-162157-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.75	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	320	D2 E4	400	85	mg/L	200		300.0	Total/NA
Lithium	0.039		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.29		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	87		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00023	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0023	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.020	D1 L3	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0027	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00081	D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	2300	D2	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	12.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M43-0421
Lab Sample ID: 550-162157-1
Date Collected: 04/14/21 13:14
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			04/23/21 18:02	200
Fluoride	0.49	D1 E4	0.80	0.095	mg/L			04/23/21 17:43	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 17:58	5
Sulfate	2100	D2	400	85	mg/L			04/23/21 18:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:02	1
Lithium	0.25		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:02	1
Boron	2.8		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:02	1
Calcium	900		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:02	1
Iron	3.2		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:02	1
Magnesium	230		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:02	1
Manganese	3.1		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:02	1
Potassium	11		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:02	1
Sodium	1100	D2	1.0	0.061	mg/L		04/20/21 11:10	04/22/21 18:11	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00013	D1 E4	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:36	2
Arsenic	0.0031	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:36	2
Barium	0.018	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:36	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:36	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:36	2
Cobalt	0.00039	D1 E4	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:36	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:36	2
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:36	2
Selenium	0.0011	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:36	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:36	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.43		0.050	0.039	mg/L			04/23/21 08:29	1
Total Dissolved Solids	6200	D2	100	100	mg/L			04/20/21 08:01	1
pH	7.3	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	13.0	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			04/29/21 18:14	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			04/29/21 18:14	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			04/29/21 18:14	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M43-0421
Lab Sample ID: 550-162157-2

Date Collected: 04/14/21 13:14
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.7**		0.10	0.010	mg/L		04/21/21 19:58	04/25/21 09:53	1
Manganese	**2.9**		0.010	0.00019	mg/L		04/21/21 19:58	04/22/21 21:47	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0036**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:54	2
Cobalt	**0.00036**	**D1 E4**	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:54	2

Client Sample ID: CH-CCR-M44D-0421
Lab Sample ID: 550-162157-3

Date Collected: 04/16/21 07:50
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1000**	**D2**	400	100	mg/L			04/22/21 03:08	200
Fluoride	**0.77**	**D1 E4**	0.80	0.095	mg/L			04/22/21 02:50	2
Sulfate	**330**	**D2 E4**	400	85	mg/L			04/22/21 03:08	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00040**	**E4**	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:43	1
Lithium	**0.040**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:05	1
Boron	**0.25**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:43	1
Calcium	**91**	**M3**	2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:43	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:34	2
Arsenic	**0.0014**	**D1**	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:34	2
Barium	**0.021**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:34	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:34	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:34	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:34	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:34	2
Molybdenum	**0.0029**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:34	2
Selenium	ND	D1 E8	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:34	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:34	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2300**	**D2**	40	40	mg/L			04/22/21 08:26	1
pH	**7.0**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**11.7**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-M45-0421

Lab Sample ID: 550-162157-4
Date Collected: 04/14/21 11:49
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	810	D2	400	100	mg/L			04/23/21 19:15	200
Fluoride	0.65	D1 E4	0.80	0.095	mg/L			04/23/21 18:57	2
Sulfate	2300	D2	400	85	mg/L			04/23/21 19:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:05	1
Lithium	0.20		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:22	1
Boron	1.1		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:05	1
Calcium	690		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:39	2
Arsenic	0.0036	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:39	2
Barium	0.014	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:39	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:39	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:39	2
Cobalt	0.00095	D1 E4	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:39	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:39	2
Molybdenum	0.016	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:39	2
Selenium	0.00082	D1 E4	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:39	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:39	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4200	D2	100	100	mg/L			04/20/21 08:01	1
pH	7.2	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	13.2	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-5
Date Collected: 04/14/21 15:28
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6900	D2	400	100	mg/L			04/22/21 20:46	200
Fluoride	0.68	D1 E4	0.80	0.095	mg/L			04/22/21 20:28	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 19:20	5
Sulfate	2200	D2	400	85	mg/L			04/22/21 20:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:09	1
Lithium	0.26		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 16:43	1
Boron	0.66		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:09	1
Calcium	1400	D2	4.0	0.026	mg/L		04/20/21 11:10	04/22/21 18:19	2

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-5

Date Collected: 04/14/21 15:28

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	4.4		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:09	1
Magnesium	270		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:09	1
Manganese	3.7		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:09	1
Potassium	22		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:09	1
Sodium	3100	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:15	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:41	2
Arsenic	0.0059	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:41	2
Barium	0.029	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:41	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:41	2
Chromium	0.053	D1	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:41	2
Cobalt	0.0010	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:41	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:41	2
Molybdenum	0.012	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:41	2
Selenium	0.0012	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:41	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:41	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.84		0.050	0.039	mg/L			04/23/21 08:31	1
Total Dissolved Solids	14000	D2	200	200	mg/L			04/20/21 08:01	1
pH	7.2	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	13.7	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.6		0.50	0.26	mg/L			04/24/21 18:00	1
Dissolved Organic Carbon - Duplicate	3.6		0.50	0.26	mg/L			04/24/21 18:00	1
Dissolved Organic Carbon - Quad	3.6		0.50	0.26	mg/L			04/24/21 18:00	1

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-6

Date Collected: 04/14/21 15:28

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.7		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:00	1
Manganese	3.4		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:00	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0046	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:56	2
Cobalt	0.0013	D1	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:56	2

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M50-0421
Date Collected: 04/15/21 13:47
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162157-7
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2000**	**D2**	400	100	mg/L			04/22/21 01:54	200
Fluoride	**2.4**	**D1**	0.80	0.095	mg/L			04/22/21 01:36	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 19:48	5
Sulfate	**3200**	**D2**	400	85	mg/L			04/22/21 01:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:13	1
Lithium	**0.44**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:36	1
Boron	**3.0**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:13	1
Calcium	**630**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:13	1
Iron	**0.13**		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:13	1
Magnesium	**220**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:13	1
Manganese	**0.36**		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:13	1
Potassium	**8.2**		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:13	1
Sodium	**1700**	**D2**	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:23	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:43	2
Arsenic	**0.0040**	**D1**	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:43	2
Barium	**0.0090**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:43	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:43	2
Chromium	**0.0034**	**D1**	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:43	2
Cobalt	**0.00045**	**D1 E4**	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:43	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:43	2
Molybdenum	**0.0082**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:43	2
Selenium	**0.0032**	**D1**	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:43	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:43	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:19	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 08:32	1
Total Dissolved Solids	**8100**	**D2 H1**	100	100	mg/L			04/26/21 09:11	1
pH	**7.5**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**13.8**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.6**		0.50	0.26	mg/L			04/24/21 18:11	1
Dissolved Organic Carbon - Duplicate	**2.6**		0.50	0.26	mg/L			04/24/21 18:11	1
Dissolved Organic Carbon - Quad	**2.6**		0.50	0.26	mg/L			04/24/21 18:11	1

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-8
Date Collected: 04/15/21 13:47
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.084	E4	0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:04	1
Manganese	0.25		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:04	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0051	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:58	2
Cobalt	0.00067	D1 E4	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:58	2

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-9
Date Collected: 04/15/21 14:29
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5600	D2	400	100	mg/L			04/22/21 01:18	200
Fluoride	5.7	D1	0.80	0.095	mg/L			04/22/21 00:59	2
Nitrate Nitrite as N	0.18	D1 E4	0.25	0.11	mg/L			04/20/21 20:15	5
Sulfate	3100	D2	400	85	mg/L			04/22/21 01:18	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:17	1
Lithium	0.46		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:39	1
Boron	30		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:17	1
Calcium	890		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:17	1
Iron	0.11		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:17	1
Magnesium	290		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:17	1
Manganese	0.51		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:17	1
Potassium	33		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:17	1
Sodium	3300	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:26	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:45	2
Arsenic	0.023	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:45	2
Barium	0.010	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:45	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:45	2
Chromium	0.0075	D1	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:45	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:45	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:45	2
Molybdenum	0.11	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:45	2
Selenium	ND	D1 E8	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:45	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 08:34	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-9
Date Collected: 04/15/21 14:29
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	200	200	mg/L			04/21/21 08:31	1
pH	7.4	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	14.5	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L			04/24/21 18:25	1
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L			04/24/21 18:25	1
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L			04/24/21 18:25	1

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-10
Date Collected: 04/15/21 14:29
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.072	E4	0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:07	1
Manganese	0.51		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:07	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.024	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:00	2
Cobalt	0.00014	D1 E4	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:00	2

Client Sample ID: CH-CCR-M63-0421

Lab Sample ID: 550-162157-11
Date Collected: 04/15/21 09:29
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	450	D2	400	100	mg/L			04/22/21 00:41	200
Fluoride	0.27	D1 E4	0.80	0.095	mg/L			04/22/21 00:22	2
Sulfate	540	D2	400	85	mg/L			04/22/21 00:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00020	E4	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:28	1
Lithium	0.054		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:56	1
Boron	0.24		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:28	1
Calcium	150		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:28	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00020	D1 E4	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:47	2
Arsenic	0.0028	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:47	2
Barium	0.031	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:47	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:47	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:47	2
Cobalt	0.0017	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:47	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:47	2
Molybdenum	0.0027	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:47	2

Client Sample ID: CH-CCR-M63-0421

Lab Sample ID: 550-162157-11

Date Collected: 04/15/21 09:29
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Selenium	**0.00036**	**D1 E4**	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:47	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:47	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**1800**		20	20	mg/L			04/21/21 08:31	1
pH	**7.7**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**15.2**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample ID: CH-CCR-M64-0421

Lab Sample ID: 550-162157-12

Date Collected: 04/15/21 15:48
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4300**	**D2**	400	100	mg/L			04/22/21 00:04	200
Fluoride	**0.21**	**D1 E4**	0.80	0.095	mg/L			04/21/21 23:46	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 20:43	5
Sulfate	**4400**	**D2**	400	85	mg/L			04/22/21 00:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:32	1
Lithium	**0.30**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 12:59	1
Boron	**1.2**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:32	1
Calcium	**540**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:32	1
Iron	**6.2**		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:32	1
Magnesium	**250**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:32	1
Manganese	**2.4**		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:32	1
Potassium	**18**		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:32	1
Sodium	**3800**	**D2**	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:30	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:50	2
Arsenic	**0.0021**	**D1**	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:50	2
Barium	**0.012**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:50	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:50	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:50	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:50	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:50	2
Molybdenum	**0.0049**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:50	2
Selenium	**0.0022**	**D1**	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:50	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:50	2

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring
Job ID: 550-162157-1

Client Sample ID: CH-CCR-M64-0421
Lab Sample ID: 550-162157-12
Date Collected: 04/15/21 15:48
Matrix: Water
Date Received: 04/19/21 10:41

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.88**		0.050	0.039	mg/L			04/23/21 08:49	1
Total Dissolved Solids	**6600**	**D2**	100	100	mg/L			04/21/21 08:31	1
pH	**7.5**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**15.9**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**4.6**	**M2**	0.50	0.26	mg/L			04/24/21 19:46	1
Dissolved Organic Carbon - Duplicate	**4.6**	**M2**	0.50	0.26	mg/L			04/24/21 19:46	1
Dissolved Organic Carbon - Quad	**4.6**	**M2**	0.50	0.26	mg/L			04/24/21 19:46	1

Client Sample ID: CH-CCR-M64-0421
Lab Sample ID: 550-162157-13
Date Collected: 04/15/21 15:48
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**5.9**		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:11	1
Manganese	**2.3**		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:11	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0027**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:02	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:02	2

Client Sample ID: CH-CCR-M65-0421
Lab Sample ID: 550-162157-14
Date Collected: 04/14/21 14:17
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3500**	**D2**	400	100	mg/L			04/21/21 23:27	200
Fluoride	**2.4**	**D1**	0.80	0.095	mg/L			04/21/21 23:09	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 21:10	5
Sulfate	**3100**	**D2**	400	85	mg/L			04/21/21 23:27	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:36	1
Lithium	**0.54**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 14:49	1
Boron	**11**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:36	1
Calcium	**800**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:36	1
Iron	**0.45**		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:36	1
Magnesium	**300**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:36	1
Manganese	**0.31**		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:36	1
Potassium	**33**		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:36	1
Sodium	**2100**	**D2**	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:34	5

Client Sample ID: CH-CCR-M65-0421
Lab Sample ID: 550-162157-14
Date Collected: 04/14/21 14:17
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:52	2
Arsenic	**0.0038**	**D1**	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:52	2
Barium	**0.017**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:52	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:52	2
Chromium	**0.016**	**D1**	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:52	2
Cobalt	**0.0032**	**D1**	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:52	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:52	2
Molybdenum	**0.076**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:52	2
Selenium	**0.0016**	**D1**	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:52	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:52	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:25	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.041**	**E4**	0.050	0.039	mg/L			04/23/21 08:53	1
Total Dissolved Solids	**8700**	**D2**	100	100	mg/L			04/20/21 08:01	1
pH	**7.3**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**16.0**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.4**		0.50	0.26	mg/L			04/27/21 16:23	1
Dissolved Organic Carbon - Duplicate	**2.4**		0.50	0.26	mg/L			04/27/21 16:23	1
Dissolved Organic Carbon - Quad	**2.4**		0.50	0.26	mg/L			04/27/21 16:23	1

Client Sample ID: CH-CCR-M65-0421
Lab Sample ID: 550-162157-15
Date Collected: 04/14/21 14:17
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.37**		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:15	1
Manganese	**0.27**		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:15	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0047**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:04	2
Cobalt	**0.0030**	**D1**	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:04	2

Client Sample ID: CH-CCR-M66-0421
Lab Sample ID: 550-162157-16
Date Collected: 04/15/21 07:25
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4400**	**D2**	400	100	mg/L			04/21/21 21:37	200
Fluoride	**1.6**	**D1**	0.80	0.095	mg/L			04/21/21 21:18	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 21:38	5

Client Sample ID: CH-CCR-M66-0421
Lab Sample ID: 550-162157-16
Date Collected: 04/15/21 07:25
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	3100	D2	400	85	mg/L			04/21/21 21:37	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:39	1
Lithium	0.54		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:02	1
Boron	1.7		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:39	1
Calcium	820		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:39	1
Iron	1.8		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:39	1
Magnesium	290		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:39	1
Manganese	3.9		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:39	1
Potassium	11		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:39	1
Sodium	2700	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:38	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 12:54	2
Arsenic	0.0030	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 12:54	2
Barium	0.023	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 12:54	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 12:54	2
Chromium	0.027	D1	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 12:54	2
Cobalt	0.0017	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 12:54	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 12:54	2
Molybdenum	0.017	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 12:54	2
Selenium	0.017	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 12:54	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 12:54	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 08:55	1
Total Dissolved Solids	10000	D2	100	100	mg/L			04/21/21 08:31	1
pH	7.3	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	14.9	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L			04/24/21 20:36	1
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L			04/24/21 20:36	1
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L			04/24/21 20:36	1

Client Sample ID: CH-CCR-M66-0421

Lab Sample ID: 550-162157-17

Date Collected: 04/15/21 07:25

Matrix: Water

Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.81		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:19	1
Manganese	3.6		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:19	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0040	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:06	2
Cobalt	0.0014	D1	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:06	2

Client Sample ID: CH-CCR-M67-0421

Lab Sample ID: 550-162157-18

Date Collected: 04/14/21 16:25

Matrix: Water

Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700	D2	400	100	mg/L			04/21/21 21:00	200
Fluoride	0.61	D1 E4	0.80	0.095	mg/L			04/21/21 20:42	2
Nitrate Nitrite as N	0.27	D1	0.25	0.11	mg/L			04/20/21 22:05	5
Sulfate	1600	D2	400	85	mg/L			04/21/21 21:00	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:43	1
Lithium	0.18		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:06	1
Boron	0.34		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:43	1
Calcium	1700	D2	4.0	0.026	mg/L		04/20/21 11:10	04/22/21 18:45	2
Iron	8.8		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:43	1
Magnesium	320		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:43	1
Manganese	5.2		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:43	1
Potassium	14		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:43	1
Sodium	1600	D2	1.0	0.061	mg/L		04/20/21 11:10	04/22/21 18:45	2

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:02	2
Arsenic	0.018	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:02	2
Barium	0.026	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:02	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:02	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:02	2
Cobalt	0.0040	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:02	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:02	2
Molybdenum	0.0050	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:02	2
Selenium	0.0010	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:02	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:02	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.6		0.050	0.039	mg/L			04/23/21 08:56	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-M67-0421

Lab Sample ID: 550-162157-18
Date Collected: 04/14/21 16:25
Matrix: Water
Date Received: 04/19/21 10:41

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	100	100	mg/L			04/20/21 08:01	1
pH	7.0	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	15.0	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.4		0.50	0.26	mg/L			04/24/21 20:48	1
Dissolved Organic Carbon - Duplicate	2.4		0.50	0.26	mg/L			04/24/21 20:48	1
Dissolved Organic Carbon - Quad	2.4		0.50	0.26	mg/L			04/24/21 20:48	1

Client Sample ID: CH-CCR-M67-0421

Lab Sample ID: 550-162157-19
Date Collected: 04/14/21 16:25
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	7.8		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:22	1
Manganese	4.9		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:22	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.021	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:08	2
Cobalt	0.0043	D1	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:08	2

Client Sample ID: CH-CCR-W123-0421

Lab Sample ID: 550-162157-20
Date Collected: 04/15/21 10:50
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6000	D2	400	100	mg/L			04/21/21 20:23	200
Fluoride	4.7	D1	0.80	0.095	mg/L			04/21/21 20:05	2
Nitrate Nitrite as N	0.85	D1	0.25	0.11	mg/L			04/20/21 22:32	5
Sulfate	3600	D2	400	85	mg/L			04/21/21 20:23	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:47	1
Lithium	0.61		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:09	1
Boron	36		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:47	1
Calcium	870		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:47	1
Iron	1.8		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:47	1
Magnesium	310		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:47	1
Manganese	0.16		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:47	1
Potassium	58		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:47	1
Sodium	3700	D2	2.5	0.15	mg/L		04/20/21 11:10	04/22/21 18:57	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0012	D1 E4	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:04	2
Arsenic	0.0046	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:04	2

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W123-0421
Lab Sample ID: 550-162157-20
Date Collected: 04/15/21 10:50
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	0.013	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:04	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:04	2
Chromium	0.23	D1	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:04	2
Cobalt	0.0018	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:04	2
Lead	0.0053	D1	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:04	2
Molybdenum	0.34	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:04	2
Selenium	0.0029	D1	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:04	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:04	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 08:58	1
Total Dissolved Solids	14000	D2	200	200	mg/L			04/21/21 08:31	1
pH	7.7	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	15.0	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.6		0.50	0.26	mg/L			04/24/21 21:00	1
Dissolved Organic Carbon - Duplicate	1.6		0.50	0.26	mg/L			04/24/21 21:00	1
Dissolved Organic Carbon - Quad	1.6		0.50	0.26	mg/L			04/24/21 21:00	1

Client Sample ID: CH-CCR-W123-0421
Lab Sample ID: 550-162157-21
Date Collected: 04/15/21 10:50
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.24		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:26	1
Manganese	0.034		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:26	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0045	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:10	2
Cobalt	0.0013	D1	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:10	2

Client Sample ID: CH-CCR-W125-0421
Lab Sample ID: 550-162157-22
Date Collected: 04/15/21 12:53
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	730	D2	400	100	mg/L			04/21/21 19:46	200
Fluoride	0.55	D1 E4	0.80	0.095	mg/L			04/21/21 19:28	2
Sulfate	350	D2 E4	400	85	mg/L			04/21/21 19:46	200

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W125-0421
Lab Sample ID: 550-162157-22
Date Collected: 04/15/21 12:53
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:51	1
Lithium	0.029		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:12	1
Boron	0.18		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:51	1
Calcium	130		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:51	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:06	2
Arsenic	0.0043	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:06	2
Barium	0.022	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:06	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:06	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:06	2
Cobalt	0.00054	D1 E4	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:06	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:06	2
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:06	2
Selenium	0.00019	D1 E4	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:06	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:06	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:34	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700		20	20	mg/L			04/21/21 08:31	1
pH	7.7	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	14.5	H5	0.1	0.1	Degrees C			04/21/21 18:30	1

Client Sample ID: CH-CCR-W126-0421
Lab Sample ID: 550-162157-23
Date Collected: 04/15/21 08:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6700	D2	400	100	mg/L			04/21/21 19:10	200
Fluoride	3.9	D1	0.80	0.095	mg/L			04/21/21 18:51	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			04/20/21 23:00	5
Sulfate	4400	D2	400	85	mg/L			04/21/21 19:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:55	1
Lithium	0.72		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:23	1
Boron	41		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:55	1
Calcium	790		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:55	1
Iron	0.15		0.10	0.010	mg/L		04/20/21 11:10	04/21/21 18:55	1
Magnesium	490		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:55	1
Manganese	0.16		0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 18:55	1
Potassium	92		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:55	1
Sodium	4200	D2	5.0	0.31	mg/L		04/20/21 11:10	04/25/21 08:37	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-W126-0421

Lab Sample ID: 550-162157-23
Date Collected: 04/15/21 08:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:08	2
Arsenic	**0.0038**	**D1**	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:08	2
Barium	**0.0099**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:08	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:08	2
Chromium	**0.0090**	**D1**	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:08	2
Cobalt	**0.0040**	**D1**	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:08	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:08	2
Molybdenum	**0.25**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:08	2
Selenium	**0.0027**	**D1**	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:08	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:08	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:36	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.20**		0.050	0.039	mg/L			04/23/21 08:59	1
Total Dissolved Solids	**16000**	**D2**	200	200	mg/L			04/21/21 08:31	1
pH	**7.6**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**12.5**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.9**		0.50	0.26	mg/L			04/24/21 21:12	1
Dissolved Organic Carbon - Duplicate	**1.9**		0.50	0.26	mg/L			04/24/21 21:12	1
Dissolved Organic Carbon - Quad	**1.9**		0.50	0.26	mg/L			04/24/21 21:12	1

Client Sample ID: CH-CCR-W126-0421

Lab Sample ID: 550-162157-24
Date Collected: 04/15/21 08:15
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.10**		0.10	0.010	mg/L		04/20/21 21:44	04/23/21 01:30	1
Manganese	**0.15**		0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 01:30	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0051**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 08:13	2
Cobalt	**0.0039**	**D1**	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 08:13	2

Client Sample ID: CH-CCR-GeronC-0421

Lab Sample ID: 550-162157-25
Date Collected: 04/15/21 11:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**8800**	**D2**	400	100	mg/L			04/23/21 19:52	200
Fluoride	**7.2**	**D1**	0.80	0.095	mg/L			04/23/21 19:34	2
Sulfate	**5700**	**D2**	400	85	mg/L			04/23/21 19:52	200

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-GeronC-0421
Lab Sample ID: 550-162157-25
Date Collected: 04/15/21 11:30
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 18:58	1
Lithium	**0.86**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:26	1
Boron	**68**		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 18:58	1
Calcium	**780**		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 18:58	1
Magnesium	**750**		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 18:58	1
Potassium	**73**		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 18:58	1
Sodium	**5500**	**D2**	5.0	0.31	mg/L		04/20/21 11:10	04/25/21 08:41	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00030**	**D1 E4**	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:10	2
Arsenic	**0.080**	**B3**	0.0020	0.00099	mg/L		04/20/21 18:25	04/26/21 12:05	4
Barium	**0.0066**	**D1**	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:10	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:10	2
Chromium	**0.010**		0.0040	0.0017	mg/L		04/20/21 18:25	04/26/21 12:05	4
Cobalt	ND	E8	0.0020	0.00025	mg/L		04/20/21 18:25	04/26/21 12:05	4
Lead	**0.023**	**D1**	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:10	2
Molybdenum	**0.039**	**D1**	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:10	2
Selenium	ND	E8	0.0020	0.00030	mg/L		04/20/21 18:25	04/26/21 12:05	4
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:10	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**81**		6.0	6.0	mg/L			04/24/21 17:07	1
Bicarbonate Alkalinity as CaCO3	**81**		6.0	6.0	mg/L			04/24/21 17:07	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:07	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 17:07	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:07	1
Total Dissolved Solids	**20000**	**D2**	200	200	mg/L			04/21/21 08:31	1
pH	**7.1**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**14.8**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	**3.3**		0.50	0.26	mg/L			04/23/21 05:08	1

Client Sample ID: CH-CCR-GeronD-0421
Lab Sample ID: 550-162157-26
Date Collected: 04/15/21 12:12
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**7700**	**D2**	400	100	mg/L			04/23/21 20:29	200
Fluoride	**7.1**	**D1**	0.80	0.095	mg/L			04/23/21 20:11	2
Sulfate	**5200**	**D2**	400	85	mg/L			04/23/21 20:29	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 19:02	1
Lithium	**0.73**		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:30	1

Client Sample ID: CH-CCR-GeronD-0421
Lab Sample ID: 550-162157-26
Date Collected: 04/15/21 12:12
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	58		0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 19:02	1
Calcium	750		2.0	0.013	mg/L		04/20/21 11:10	04/21/21 19:02	1
Magnesium	580		2.0	0.044	mg/L		04/20/21 11:10	04/21/21 19:02	1
Potassium	58		0.50	0.17	mg/L		04/20/21 11:10	04/21/21 19:02	1
Sodium	4900	D2	5.0	0.31	mg/L		04/20/21 11:10	04/25/21 08:45	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00015	D1 E4	0.0020	0.000087	mg/L		04/20/21 18:25	04/26/21 13:12	2
Arsenic	0.0076	D1	0.0010	0.00049	mg/L		04/20/21 18:25	04/26/21 13:12	2
Barium	0.0086	D1	0.0010	0.00052	mg/L		04/20/21 18:25	04/26/21 13:12	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/20/21 18:25	04/26/21 13:12	2
Chromium	0.0038	D1	0.0020	0.00087	mg/L		04/20/21 18:25	04/26/21 13:12	2
Cobalt	0.0013	D1	0.0010	0.00013	mg/L		04/20/21 18:25	04/26/21 13:12	2
Lead	0.019	D1	0.0010	0.00044	mg/L		04/20/21 18:25	04/26/21 13:12	2
Molybdenum	0.038	D1	0.0010	0.00040	mg/L		04/20/21 18:25	04/26/21 13:12	2
Selenium	0.00088	D1 E4	0.0010	0.00015	mg/L		04/20/21 18:25	04/26/21 13:12	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/20/21 18:25	04/26/21 13:12	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	83		6.0	6.0	mg/L			04/24/21 17:16	1
Bicarbonate Alkalinity as CaCO3	83		6.0	6.0	mg/L			04/24/21 17:16	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:16	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 17:16	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:16	1
Total Dissolved Solids	17000	D2	200	200	mg/L			04/21/21 08:31	1
pH	7.5	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	15.8	H5	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	3.1		0.50	0.26	mg/L			04/23/21 05:21	1

Client Sample ID: CH-CCR-HuntB-0421
Lab Sample ID: 550-162157-27
Date Collected: 04/15/21 08:40
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5200	D2	400	100	mg/L			04/23/21 21:43	200
Fluoride	3.9	D1	0.80	0.095	mg/L			04/23/21 21:24	2
Sulfate	3300	D2	400	85	mg/L			04/23/21 21:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 21:44	04/23/21 01:41	1
Lithium	0.49		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:33	1
Boron	29		0.050	0.0025	mg/L		04/20/21 21:44	04/23/21 01:41	1
Calcium	760		2.0	0.013	mg/L		04/20/21 21:44	04/23/21 01:41	1

Client Sample ID: CH-CCR-HuntB-0421
Lab Sample ID: 550-162157-27
Date Collected: 04/15/21 08:40
Matrix: Water
Date Received: 04/19/21 10:41

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	250		2.0	0.044	mg/L		04/20/21 21:44	04/23/21 01:41	1
Potassium	33		0.50	0.17	mg/L		04/20/21 21:44	04/25/21 10:54	1
Sodium	3000	B7 D2	2.5	0.15	mg/L		04/20/21 21:44	04/25/21 10:28	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00033	D1 E4	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:35	2
Arsenic	0.0029	D1	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:35	2
Barium	0.010	D1 L3	0.0010	0.00052	mg/L		04/29/21 07:01	04/30/21 07:35	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:35	2
Chromium	0.0012	D1 E4	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:35	2
Cobalt	0.0042	D1	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:35	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:35	2
Molybdenum	0.44	D1	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:35	2
Selenium	0.0029	D1	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:35	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:35	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:40	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	64		6.0	6.0	mg/L			04/24/21 17:24	1
Bicarbonate Alkalinity as CaCO3	64		6.0	6.0	mg/L			04/24/21 17:24	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:24	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 17:24	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:24	1
Total Dissolved Solids	11000	D2	200	200	mg/L			04/21/21 08:31	1
pH	7.7	H5	1.7	1.7	SU			04/21/21 18:30	1
Temperature	16.6	H5	0.1	0.1	Degrees C			04/21/21 18:30	1
Total Organic Carbon	1.7		0.50	0.26	mg/L			04/23/21 05:33	1

Client Sample ID: CH-CCR-FD05-0421
Lab Sample ID: 550-162157-28
Date Collected: 04/16/21 07:50
Matrix: Water
Date Received: 04/19/21 10:41

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1000	D2	400	100	mg/L			04/21/21 17:56	200
Fluoride	0.75	D1 E4	0.80	0.095	mg/L			04/21/21 17:38	2
Sulfate	320	D2 E4	400	85	mg/L			04/21/21 17:56	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 21:44	04/23/21 01:45	1
Lithium	0.039		0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:36	1
Boron	0.29		0.050	0.0025	mg/L		04/20/21 21:44	04/23/21 01:45	1
Calcium	87		2.0	0.013	mg/L		04/20/21 21:44	04/23/21 01:45	1

Client Sample ID: CH-CCR-FD05-0421

Date Collected: 04/16/21 07:50
Date Received: 04/19/21 10:41

Lab Sample ID: 550-162157-28
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00023**	**D1 E4**	0.0020	0.000087	mg/L		04/29/21 07:01	04/30/21 07:37	2
Arsenic	**0.0023**	**D1**	0.0010	0.00049	mg/L		04/29/21 07:01	04/30/21 07:37	2
Barium	**0.020**	**D1 L3**	0.0010	0.00052	mg/L		04/29/21 07:01	04/30/21 07:37	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		04/29/21 07:01	04/30/21 07:37	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		04/29/21 07:01	04/30/21 07:37	2
Cobalt	ND	D1 E8	0.0010	0.00013	mg/L		04/29/21 07:01	04/30/21 07:37	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		04/29/21 07:01	04/30/21 07:37	2
Molybdenum	**0.0027**	**D1**	0.0010	0.00040	mg/L		04/29/21 07:01	04/30/21 07:37	2
Selenium	**0.00081**	**D1 E4**	0.0010	0.00015	mg/L		04/29/21 07:01	04/30/21 07:37	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		04/29/21 07:01	04/30/21 07:37	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**2300**	**D2**	40	40	mg/L			04/22/21 08:26	1
pH	**7.0**	**H5**	1.7	1.7	SU			04/21/21 18:30	1
Temperature	**12.0**	**H5**	0.1	0.1	Degrees C			04/21/21 18:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-239970/1030 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 13:38	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 13:38	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 13:38	1

Lab Sample ID: MB 550-239970/1058 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 22:14	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 22:14	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 22:14	1

Lab Sample ID: LCS 550-239970/31 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.1		mg/L		106	90 - 110
Fluoride	4.00	4.23		mg/L		106	90 - 110
Sulfate	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-239970/32 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.4		mg/L		107	90 - 110	1	20
Fluoride	4.00	4.28		mg/L		107	90 - 110	1	20
Sulfate	20.0	21.1		mg/L		106	90 - 110	1	20

Lab Sample ID: 550-162059-B-1 MS ^10 | **Client Sample ID: Matrix Spike**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	170	D2	200	387	D2	mg/L		106	80 - 120
Fluoride	0.78	E4 D1	40.0	43.1	D1	mg/L		106	80 - 120
Sulfate	330	D2	200	529	D2	mg/L		99	80 - 120

Lab Sample ID: 550-162059-B-1 MSD ^10 | **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 239970

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	170	D2	200	393	D2	mg/L		109	80 - 120	2	20
Fluoride	0.78	E4 D1	40.0	43.7	D1	mg/L		107	80 - 120	1	20
Sulfate	330	D2	200	538	D2	mg/L		103	80 - 120	2	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-239973/1030
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/21/21 00:22	1

Lab Sample ID: MB 550-239973/2
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			04/20/21 11:35	1

Lab Sample ID: LCS 550-239973/5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			8.00	8.25		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-239973/6
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.28		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-161801-I-9 MS ^5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	10	D1	40.0	50.3	D1	mg/L		101	80 - 120		

Lab Sample ID: 550-161801-I-9 MSD ^5
Matrix: Water
Analysis Batch: 239973

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	10	D1	40.0	50.4	D1	mg/L		101	80 - 120	0	20

Lab Sample ID: MB 550-239979/1030
Matrix: Water
Analysis Batch: 239979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 13:38	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 13:38	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 13:38	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-239979/1058
Matrix: Water
Analysis Batch: 239979

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/21/21 22:14	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/21/21 22:14	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/21/21 22:14	1

Lab Sample ID: LCS 550-239979/59
Matrix: Water
Analysis Batch: 239979

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.3		mg/L		106	90 - 110
Fluoride	4.00	4.27		mg/L		107	90 - 110
Sulfate	20.0	21.2		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-239979/60
Matrix: Water
Analysis Batch: 239979

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.28		mg/L		107	90 - 110	0	20
Sulfate	20.0	21.1		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-162157-3 MS
Matrix: Water
Analysis Batch: 239979

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1000	D2	4000	5310	D2	mg/L		107	80 - 120
Fluoride	ND	E8 D1 D5	800	841	D1	mg/L		105	80 - 120
Sulfate	330	E4 D2	4000	4480	D2	mg/L		104	80 - 120

Lab Sample ID: 550-162157-3 MSD
Matrix: Water
Analysis Batch: 239979

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1000	D2	4000	5350	D2	mg/L		108	80 - 120	1	20
Fluoride	ND	E8 D1 D5	800	850	D1	mg/L		106	80 - 120	1	20
Sulfate	330	E4 D2	4000	4520	D2	mg/L		105	80 - 120	1	20

Lab Sample ID: MB 550-240268/1031
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/22/21 19:33	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/22/21 19:33	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/22/21 19:33	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-240268/1057
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 03:31	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 03:31	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 03:31	1

Lab Sample ID: LCS 550-240268/32
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.5		mg/L		102	90 - 110
Fluoride	4.00	4.13		mg/L		103	90 - 110
Sulfate	20.0	20.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-240268/33
Matrix: Water
Analysis Batch: 240268

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.3		mg/L		101	90 - 110	1	20
Fluoride	4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	1	20

Lab Sample ID: 550-162157-5 MS
Matrix: Water
Analysis Batch: 240268

Client Sample ID: CH-CCR-M46-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	6900	D2	4000	10800	D2	mg/L		96	80 - 120
Fluoride	ND	E8 D1 D5	800	852	D1	mg/L		106	80 - 120
Sulfate	2200	D2	4000	6360	D2	mg/L		104	80 - 120

Lab Sample ID: 550-162157-5 MSD
Matrix: Water
Analysis Batch: 240268

Client Sample ID: CH-CCR-M46-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	6900	D2	4000	10600	D2	mg/L		93	80 - 120	1	20
Fluoride	ND	E8 D1 D5	800	858	D1	mg/L		107	80 - 120	1	20
Sulfate	2200	D2	4000	6340	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-240345/2
Matrix: Water
Analysis Batch: 240345

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			04/23/21 16:11	1
Fluoride	ND	E8	0.40	0.047	mg/L			04/23/21 16:11	1
Sulfate	ND	E8	2.0	0.43	mg/L			04/23/21 16:11	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-240345/5
Matrix: Water
Analysis Batch: 240345
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	20.7		mg/L		103	90 - 110		
Fluoride			4.00	4.17		mg/L		104	90 - 110		
Sulfate			20.0	21.1		mg/L		106	90 - 110		

Lab Sample ID: LCSD 550-240345/6
Matrix: Water
Analysis Batch: 240345
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.8		mg/L		104	90 - 110	1	20
Fluoride			4.00	4.18		mg/L		104	90 - 110	0	20
Sulfate			20.0	21.3		mg/L		107	90 - 110	1	20

Lab Sample ID: 550-162157-1 MS
Matrix: Water
Analysis Batch: 240345
Client Sample ID: CH-CCR-M43-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	2100	D2	4000	6660	D2	mg/L		113	80 - 120		
Fluoride	ND	E8 D1 D5	800	850	D1	mg/L		106	80 - 120		
Sulfate	2100	D2	4000	6500	D2	mg/L		109	80 - 120		

Lab Sample ID: 550-162157-1 MSD
Matrix: Water
Analysis Batch: 240345
Client Sample ID: CH-CCR-M43-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2100	D2	4000	6660	D2	mg/L		113	80 - 120	0	20
Fluoride	ND	E8 D1 D5	800	867	D1	mg/L		108	80 - 120	2	20
Sulfate	2100	D2	4000	6490	D2	mg/L		109	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240086
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.000110	E4	0.0010	0.000067	mg/L		04/20/21 11:10	04/21/21 17:24	1
Boron	ND	E8	0.050	0.0025	mg/L		04/20/21 11:10	04/21/21 17:24	1
Calcium	ND	E8	2.0	0.013	mg/L		04/20/21 11:10	04/21/21 17:24	1
Iron	ND	E8	0.10	0.010	mg/L		04/20/21 11:10	04/21/21 17:24	1
Magnesium	ND	E8	2.0	0.044	mg/L		04/20/21 11:10	04/21/21 17:24	1
Manganese	ND	E8	0.010	0.00019	mg/L		04/20/21 11:10	04/21/21 17:24	1
Potassium	0.200	E4	0.50	0.17	mg/L		04/20/21 11:10	04/21/21 17:24	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	ND	E8	0.50	0.031	mg/L		04/20/21 11:10	04/22/21 17:18	1

Lab Sample ID: MB 550-239848/1-A
Matrix: Water
Analysis Batch: 240455

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239848

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.201	E4	0.50	0.031	mg/L		04/20/21 11:10	04/25/21 08:15	1

Lab Sample ID: LCS 550-239848/2-A
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.07		mg/L		107	85 - 115
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	22.1		mg/L		105	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.8		mg/L		104	85 - 115
Manganese	1.00	1.08		mg/L		108	85 - 115
Potassium	20.0	21.2		mg/L		106	85 - 115

Lab Sample ID: LCS 550-239848/2-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	20.5		mg/L		102	85 - 115

Lab Sample ID: LCS 550-239848/2-A
Matrix: Water
Analysis Batch: 240455

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	21.5		mg/L		107	85 - 115

Lab Sample ID: LCSD 550-239848/3-A
Matrix: Water
Analysis Batch: 240086

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.05		mg/L		105	85 - 115	2	20
Boron	1.00	0.994		mg/L		99	85 - 115	2	20
Calcium	21.0	21.7		mg/L		103	85 - 115	2	20
Iron	1.00	1.02		mg/L		102	85 - 115	0	20
Magnesium	21.0	21.5		mg/L		102	85 - 115	2	20
Manganese	1.00	1.06		mg/L		106	85 - 115	2	20
Potassium	20.0	20.7		mg/L		104	85 - 115	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-239848/3-A
Matrix: Water
Analysis Batch: 240216

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239848

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	19.9		mg/L		100	85 - 115	3	20

Lab Sample ID: LCSD 550-239848/3-A
Matrix: Water
Analysis Batch: 240455

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239848

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	20.7		mg/L		103	85 - 115	4	20

Lab Sample ID: 550-162157-3 MS
Matrix: Water
Analysis Batch: 240086

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00040	E4	1.00	1.10		mg/L		110	70 - 130
Boron	0.25		1.00	1.27		mg/L		102	70 - 130
Calcium	91	M3	21.0	108	M3	mg/L		81	70 - 130

Lab Sample ID: 550-162157-3 MSD
Matrix: Water
Analysis Batch: 240086

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 239848

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00040	E4	1.00	1.07		mg/L		107	70 - 130	3	20
Boron	0.25		1.00	1.23		mg/L		99	70 - 130	3	20
Calcium	91	M3	21.0	105	M3	mg/L		65	70 - 130	3	20

Lab Sample ID: MB 550-239926/1-A
Matrix: Water
Analysis Batch: 240221

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		04/20/21 21:44	04/23/21 00:37	1
Boron	0.00294	E4	0.050	0.0025	mg/L		04/20/21 21:44	04/23/21 00:37	1
Calcium	0.0721	E4	2.0	0.013	mg/L		04/20/21 21:44	04/23/21 00:37	1
Iron	0.0113	E4	0.10	0.010	mg/L		04/20/21 21:44	04/23/21 00:37	1
Magnesium	0.0485	E4	2.0	0.044	mg/L		04/20/21 21:44	04/23/21 00:37	1
Manganese	0.000790	E4	0.010	0.00019	mg/L		04/20/21 21:44	04/23/21 00:37	1

Lab Sample ID: MB 550-239926/1-A
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239926

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		04/20/21 21:44	04/25/21 10:05	1
Sodium	0.576	B1	0.50	0.031	mg/L		04/20/21 21:44	04/25/21 10:05	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-239926/2-A
Matrix: Water
Analysis Batch: 240221

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.03		mg/L		103	85 - 115
Boron	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	21.2		mg/L		101	85 - 115
Iron	1.00	0.991		mg/L		99	85 - 115
Magnesium	21.0	21.2		mg/L		101	85 - 115
Manganese	1.00	1.02		mg/L		102	85 - 115

Lab Sample ID: LCS 550-239926/2-A
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	20.0	20.3		mg/L		101	85 - 115
Sodium	20.0	21.0		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-239926/3-A
Matrix: Water
Analysis Batch: 240221

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.977		mg/L		98	85 - 115	5	20
Boron	1.00	0.962		mg/L		96	85 - 115	4	20
Calcium	21.0	20.2		mg/L		96	85 - 115	5	20
Iron	1.00	0.947		mg/L		95	85 - 115	5	20
Magnesium	21.0	20.2		mg/L		96	85 - 115	5	20
Manganese	1.00	0.979		mg/L		98	85 - 115	4	20

Lab Sample ID: LCSD 550-239926/3-A
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	20.0	18.9		mg/L		95	85 - 115	7	20
Sodium	20.0	19.5		mg/L		98	85 - 115	7	20

Lab Sample ID: 550-162159-E-2-A MS
Matrix: Water
Analysis Batch: 240221

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00063	E4	1.00	1.03		mg/L		102	70 - 130
Boron	0.48		1.00	1.44		mg/L		95	70 - 130
Calcium	86		21.0	105	M3	mg/L		88	70 - 130
Iron	0.59		1.00	1.55		mg/L		96	70 - 130
Magnesium	32		21.0	51.4		mg/L		95	70 - 130
Manganese	0.062		1.00	1.03		mg/L		97	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-162159-E-2-A MS
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	3.9		20.0	25.7		mg/L		109	70 - 130

Lab Sample ID: 550-162159-E-2-A MS ^2
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	890	M3 B7	20.0	904	M3	mg/L		78	70 - 130

Lab Sample ID: 550-162159-E-2-B MSD
Matrix: Water
Analysis Batch: 240221

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00063	E4	1.00	1.01		mg/L		101	70 - 130	2	20
Boron	0.48		1.00	1.45		mg/L		97	70 - 130	1	20
Calcium	86		21.0	104	M3	mg/L		85	70 - 130	1	20
Iron	0.59		1.00	1.54		mg/L		96	70 - 130	0	20
Magnesium	32		21.0	51.0		mg/L		92	70 - 130	1	20
Manganese	0.062		1.00	1.03		mg/L		97	70 - 130	0	20

Lab Sample ID: 550-162159-E-2-B MSD
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	3.9		20.0	26.5		mg/L		113	70 - 130	3	20

Lab Sample ID: 550-162159-E-2-B MSD ^2
Matrix: Water
Analysis Batch: 240432

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 239926

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	890	M3 B7	20.0	926	M3	mg/L		185	70 - 130	2	20

Lab Sample ID: MB 550-240067/1-A
Matrix: Water
Analysis Batch: 240219

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	0.00100	E4	0.010	0.00019	mg/L		04/21/21 19:58	04/22/21 21:20	1

Lab Sample ID: MB 550-240067/1-A
Matrix: Water
Analysis Batch: 240458

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240067

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		04/21/21 19:58	04/25/21 09:31	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-240067/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240219 | **Prep Batch: 240067**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	1.00	1.00		mg/L		100	85 - 115

Lab Sample ID: LCS 550-240067/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240458 | **Prep Batch: 240067**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.997		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-240067/3-A | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240219 | **Prep Batch: 240067**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	1.00	0.973		mg/L		97	85 - 115	3	20

Lab Sample ID: LCSD 550-240067/3-A | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 240458 | **Prep Batch: 240067**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	0.974		mg/L		97	85 - 115	2	20

Lab Sample ID: MB 280-534428/1-A | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 534781 | **Prep Batch: 534428**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 13:29	1

Lab Sample ID: LCS 280-534428/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 534781 | **Prep Batch: 534428**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.00		mg/L		100	90 - 112

Lab Sample ID: 550-162157-14 MS | **Client Sample ID: CH-CCR-M65-0421**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 534781 | **Prep Batch: 534428**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.54		1.00	1.59		mg/L		106	70 - 130

Lab Sample ID: 550-162157-14 MSD | **Client Sample ID: CH-CCR-M65-0421**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 534781 | **Prep Batch: 534428**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.54		1.00	1.63		mg/L		109	70 - 130	2	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 280-534429/1-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534429

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 11:49	1

Lab Sample ID: LCS 280-534429/2-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534429

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.04		mg/L		104	90 - 112

Lab Sample ID: 550-162157-4 MS
Matrix: Water
Analysis Batch: 534781

Client Sample ID: CH-CCR-M45-0421
Prep Type: Total/NA
Prep Batch: 534429

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.20		1.00	1.28		mg/L		107	70 - 130

Lab Sample ID: 550-162157-4 MSD
Matrix: Water
Analysis Batch: 534781

Client Sample ID: CH-CCR-M45-0421
Prep Type: Total/NA
Prep Batch: 534429

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.20		1.00	1.31		mg/L		110	70 - 130	2	20

Lab Sample ID: MB 280-534431/1-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 534431

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		04/30/21 15:50	05/03/21 15:16	1

Lab Sample ID: LCS 280-534431/2-A
Matrix: Water
Analysis Batch: 534781

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.02		mg/L		102	90 - 112

Lab Sample ID: 550-162157-5 MS
Matrix: Water
Analysis Batch: 534781

Client Sample ID: CH-CCR-M46-0421
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.26		1.00	1.45		mg/L		118	70 - 130

Lab Sample ID: 550-162157-5 MSD
Matrix: Water
Analysis Batch: 534781

Client Sample ID: CH-CCR-M46-0421
Prep Type: Total/NA
Prep Batch: 534431

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.26		1.00	1.39		mg/L		113	70 - 130	4	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-162152-A-30-A MS
Matrix: Water
Analysis Batch: 240219

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	0.57		1.00	1.51		mg/L		94	70 - 130

Lab Sample ID: 550-162152-A-30-A MS
Matrix: Water
Analysis Batch: 240458

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.076	E4	1.00	1.11		mg/L		103	70 - 130

Lab Sample ID: 550-162152-A-30-B MSD
Matrix: Water
Analysis Batch: 240219

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Manganese	0.57		1.00	1.51		mg/L		94	70 - 130	0	20

Lab Sample ID: 550-162152-A-30-B MSD
Matrix: Water
Analysis Batch: 240458

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 240067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.076	E4	1.00	1.12		mg/L		104	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-239913/1-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 239913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		04/20/21 18:25	04/26/21 12:24	1
Arsenic	ND	E8	0.00050	0.00025	mg/L		04/20/21 18:25	04/26/21 12:24	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/20/21 18:25	04/26/21 12:24	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/20/21 18:25	04/26/21 12:24	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/20/21 18:25	04/26/21 12:24	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		04/20/21 18:25	04/26/21 12:24	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/20/21 18:25	04/26/21 12:24	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/20/21 18:25	04/26/21 12:24	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/20/21 18:25	04/26/21 12:24	1
Thallium	0.0000240	E4	0.00010	0.000013	mg/L		04/20/21 18:25	04/26/21 12:24	1

Lab Sample ID: LCS 550-239913/2-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0939		mg/L		94	85 - 115
Arsenic	0.100	0.0949		mg/L		95	85 - 115
Barium	0.100	0.103		mg/L		103	85 - 115
Cadmium	0.100	0.0948		mg/L		95	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-239913/2-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chromium	0.100	0.0969		mg/L		97	85 - 115
Cobalt	0.100	0.0945		mg/L		95	85 - 115
Lead	0.100	0.0968		mg/L		97	85 - 115
Molybdenum	0.100	0.0957		mg/L		96	85 - 115
Selenium	0.100	0.0959		mg/L		96	85 - 115
Thallium	0.100	0.0953		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-239913/3-A
Matrix: Water
Analysis Batch: 240464

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0938		mg/L		94	85 - 115	0	20
Arsenic	0.100	0.0927		mg/L		93	85 - 115	2	20
Barium	0.100	0.104		mg/L		104	85 - 115	0	20
Cadmium	0.100	0.0943		mg/L		94	85 - 115	1	20
Chromium	0.100	0.0956		mg/L		96	85 - 115	1	20
Cobalt	0.100	0.0926		mg/L		93	85 - 115	2	20
Lead	0.100	0.0942		mg/L		94	85 - 115	3	20
Molybdenum	0.100	0.0936		mg/L		94	85 - 115	2	20
Selenium	0.100	0.0947		mg/L		95	85 - 115	1	20
Thallium	0.100	0.0902		mg/L		90	85 - 115	5	20

Lab Sample ID: 550-162157-3 MS
Matrix: Water
Analysis Batch: 240464

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	E8 D1	0.100	0.0998		mg/L		100	70 - 130
Arsenic	0.0014	D1	0.100	0.103		mg/L		102	70 - 130
Barium	0.021	D1	0.100	0.129		mg/L		107	70 - 130
Cadmium	ND	E8 D1	0.100	0.0942		mg/L		94	70 - 130
Chromium	ND	E8 D1	0.100	0.102		mg/L		102	70 - 130
Cobalt	ND	E8 D1	0.100	0.0958		mg/L		96	70 - 130
Lead	ND	E8 D1	0.100	0.0903		mg/L		90	70 - 130
Molybdenum	0.0029	D1	0.100	0.106		mg/L		103	70 - 130
Selenium	ND	E8 D1	0.100	0.103		mg/L		103	70 - 130
Thallium	ND	E8 D1	0.100	0.0862		mg/L		86	70 - 130

Lab Sample ID: 550-162157-3 MSD
Matrix: Water
Analysis Batch: 240464

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	E8 D1	0.100	0.0998		mg/L		100	70 - 130	0	20
Arsenic	0.0014	D1	0.100	0.102		mg/L		100	70 - 130	2	20
Barium	0.021	D1	0.100	0.131		mg/L		110	70 - 130	2	20
Cadmium	ND	E8 D1	0.100	0.0949		mg/L		95	70 - 130	1	20
Chromium	ND	E8 D1	0.100	0.101		mg/L		101	70 - 130	1	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-162157-3 MSD
Matrix: Water
Analysis Batch: 240464
Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 239913

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	ND	E8 D1	0.100	0.0949		mg/L		95	70 - 130	1	20
Lead	ND	E8 D1	0.100	0.0905		mg/L		91	70 - 130	0	20
Molybdenum	0.0029	D1	0.100	0.106		mg/L		103	70 - 130	0	20
Selenium	ND	E8 D1	0.100	0.0995		mg/L		99	70 - 130	3	20
Thallium	ND	E8 D1	0.100	0.0873		mg/L		87	70 - 130	1	20

Lab Sample ID: MB 550-240803/1-A
Matrix: Water
Analysis Batch: 241021
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240803

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000186	B1 E4	0.0010	0.000043	mg/L		04/29/21 07:01	04/30/21 07:10	1
Arsenic	0.000328	B1 E4	0.00050	0.00025	mg/L		04/29/21 07:01	04/30/21 07:10	1
Barium	ND	E8	0.00050	0.00026	mg/L		04/29/21 07:01	04/30/21 07:10	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		04/29/21 07:01	04/30/21 07:10	1
Chromium	ND	E8	0.0010	0.00043	mg/L		04/29/21 07:01	04/30/21 07:10	1
Cobalt	0.0000750	B1 E4	0.00050	0.000063	mg/L		04/29/21 07:01	04/30/21 07:10	1
Lead	ND	E8	0.00050	0.00022	mg/L		04/29/21 07:01	04/30/21 07:10	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		04/29/21 07:01	04/30/21 07:10	1
Selenium	ND	E8	0.00050	0.000074	mg/L		04/29/21 07:01	04/30/21 07:10	1
Thallium	ND	E8	0.00010	0.000013	mg/L		04/29/21 07:01	04/30/21 07:10	1

Lab Sample ID: LCS 550-240803/2-A
Matrix: Water
Analysis Batch: 241021
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.109		mg/L		109	85 - 115
Arsenic	0.100	0.110		mg/L		110	85 - 115
Barium	0.100	0.122	L3	mg/L		122	85 - 115
Cadmium	0.100	0.109		mg/L		109	85 - 115
Chromium	0.100	0.113		mg/L		113	85 - 115
Cobalt	0.100	0.111		mg/L		111	85 - 115
Lead	0.100	0.114		mg/L		114	85 - 115
Molybdenum	0.100	0.110		mg/L		110	85 - 115
Selenium	0.100	0.111		mg/L		111	85 - 115
Thallium	0.100	0.112		mg/L		112	85 - 115

Lab Sample ID: LCSD 550-240803/3-A
Matrix: Water
Analysis Batch: 241021
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.106		mg/L		106	85 - 115	3	20
Arsenic	0.100	0.105		mg/L		105	85 - 115	5	20
Barium	0.100	0.125	L3	mg/L		125	85 - 115	2	20
Cadmium	0.100	0.105		mg/L		105	85 - 115	3	20
Chromium	0.100	0.108		mg/L		108	85 - 115	4	20
Cobalt	0.100	0.107		mg/L		107	85 - 115	4	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCSD 550-240803/3-A
Matrix: Water
Analysis Batch: 241021

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240803

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead			0.100	0.109		mg/L		109	85 - 115	4	20
Molybdenum			0.100	0.107		mg/L		107	85 - 115	3	20
Selenium			0.100	0.105		mg/L		105	85 - 115	5	20
Thallium			0.100	0.103		mg/L		103	85 - 115	9	20

Lab Sample ID: 550-162220-D-1-C MS
Matrix: Water
Analysis Batch: 241021

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00018	E4	0.100	0.0917		mg/L		92	70 - 130
Arsenic	0.0053		0.100	0.0938		mg/L		88	70 - 130
Barium	0.067	L3	0.100	0.160		mg/L		93	70 - 130
Cadmium	ND	E8	0.100	0.0871		mg/L		87	70 - 130
Chromium	0.018		0.100	0.104		mg/L		86	70 - 130
Cobalt	0.000063	E4	0.100	0.0868		mg/L		87	70 - 130
Lead	ND	E8	0.100	0.0865		mg/L		87	70 - 130
Molybdenum	0.0018		0.100	0.0933		mg/L		92	70 - 130
Selenium	0.00085		0.100	0.0911		mg/L		90	70 - 130
Thallium	0.00020		0.100	0.0837		mg/L		84	70 - 130

Lab Sample ID: 550-162220-D-1-D MSD
Matrix: Water
Analysis Batch: 241021

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 240803

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00018	E4	0.100	0.104		mg/L		104	70 - 130	13	20
Arsenic	0.0053		0.100	0.108		mg/L		103	70 - 130	14	20
Barium	0.067	L3	0.100	0.189		mg/L		123	70 - 130	17	20
Cadmium	ND	E8	0.100	0.0996		mg/L		100	70 - 130	13	20
Chromium	0.018		0.100	0.120		mg/L		102	70 - 130	14	20
Cobalt	0.000063	E4	0.100	0.100		mg/L		100	70 - 130	14	20
Lead	ND	E8	0.100	0.101		mg/L		101	70 - 130	16	20
Molybdenum	0.0018		0.100	0.106		mg/L		104	70 - 130	13	20
Selenium	0.00085		0.100	0.105		mg/L		105	70 - 130	15	20
Thallium	0.00020		0.100	0.0996		mg/L		99	70 - 130	17	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-240171/1-A
Matrix: Water
Analysis Batch: 240198

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 240171

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		04/22/21 15:21	04/22/21 19:05	1

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 550-240171/2-A
Matrix: Water
Analysis Batch: 240198
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 240171

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg			0.00500	0.00513		mg/L		103	85 - 115		

Lab Sample ID: LCSD 550-240171/3-A
Matrix: Water
Analysis Batch: 240198
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 240171

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg			0.00500	0.00490		mg/L		98	85 - 115	5	20

Lab Sample ID: 550-162157-3 MS
Matrix: Water
Analysis Batch: 240198
Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 240171

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Hg	ND	E8	0.00500	0.00482		mg/L		96	70 - 130		

Lab Sample ID: 550-162157-3 MSD
Matrix: Water
Analysis Batch: 240198
Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA
Prep Batch: 240171

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00490		mg/L		98	70 - 130	2	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-240280/21
Matrix: Water
Analysis Batch: 240280
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 07:34	1

Lab Sample ID: MB 550-240280/60
Matrix: Water
Analysis Batch: 240280
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			04/23/21 08:44	1

Lab Sample ID: LCS 550-240280/22
Matrix: Water
Analysis Batch: 240280
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	1.03		mg/L		103	90 - 110		

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-240280/61
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	1.00		mg/L		100	90 - 110		

Lab Sample ID: LCSD 550-240280/23
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	1.01		mg/L		101	90 - 110	1	20

Lab Sample ID: LCSD 550-240280/62
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	0.978		mg/L		98	90 - 110	3	20

Lab Sample ID: 550-162157-12 MS
Matrix: Water
Analysis Batch: 240280

Client Sample ID: CH-CCR-M64-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.88		1.00	1.89		mg/L		101	90 - 110		

Lab Sample ID: 550-162157-12 MSD
Matrix: Water
Analysis Batch: 240280

Client Sample ID: CH-CCR-M64-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.88		1.00	1.89		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-162340-B-2 MS
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.047	E4	1.00	1.04		mg/L		99	90 - 110		

Lab Sample ID: 550-162340-B-2 MSD
Matrix: Water
Analysis Batch: 240280

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.047	E4	1.00	1.02		mg/L		98	90 - 110	2	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-240375/34
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			04/24/21 17:50	1

Lab Sample ID: LCS 550-240375/33
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	266		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-240375/20
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	264		mg/L		106	90 - 110	1	20

Lab Sample ID: 550-162152-E-34 DU
Matrix: Water
Analysis Batch: 240375

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	170		170		mg/L		0.7	20
Bicarbonate Alkalinity as CaCO3	120		118		mg/L		6	20
Carbonate Alkalinity as CaCO3	46		51.9		mg/L		12	20
Alkalinity, Phenolphthalein	23		26.0		mg/L		12	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-239805/1
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/20/21 08:01	1

Lab Sample ID: LCS 550-239805/2
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	970		mg/L		97	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-239805/3
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	944		mg/L		94	90 - 110	3	10

Lab Sample ID: 550-161899-A-1 DU
Matrix: Water
Analysis Batch: 239805

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1100			1140		mg/L				2	10

Lab Sample ID: MB 550-239953/1
Matrix: Water
Analysis Batch: 239953

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/21/21 08:31	1

Lab Sample ID: LCS 550-239953/2
Matrix: Water
Analysis Batch: 239953

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	950		mg/L		95	90 - 110		

Lab Sample ID: LCSD 550-239953/3
Matrix: Water
Analysis Batch: 239953

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	968		mg/L		97	90 - 110	2	10

Lab Sample ID: 550-161956-D-17 DU
Matrix: Water
Analysis Batch: 239953

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2800	D2		2820	D2	mg/L				2	10

Lab Sample ID: 550-162157-11 DU
Matrix: Water
Analysis Batch: 239953

Client Sample ID: CH-CCR-M63-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1800			1800		mg/L				0.2	10

Lab Sample ID: MB 550-240102/1
Matrix: Water
Analysis Batch: 240102

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/22/21 08:26	1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 550-240102/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240102

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	980		mg/L		98	90 - 110		

Lab Sample ID: LCSD 550-240102/3
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240102

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	970		mg/L		97	90 - 110	1	10

Lab Sample ID: 550-162124-B-30 DU
Client Sample ID: Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240102

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1400			1310		mg/L				4	10

Lab Sample ID: 550-162157-3 DU
Client Sample ID: CH-CCR-M44D-0421
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240102

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2300	D2		2200	D2	mg/L				6	10

Lab Sample ID: MB 550-240411/1
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240411

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			04/26/21 09:11	1

Lab Sample ID: LCS 550-240411/2
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240411

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1030		mg/L		103	90 - 110		

Lab Sample ID: LCSD 550-240411/3
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240411

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110	2	10

Lab Sample ID: 550-162158-A-5 DU
Client Sample ID: Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 240411

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	6900	D2		7100	D2	mg/L				3	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-240071/13
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/25
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/37
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: LCSSRM 550-240071/49
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.1		SU		101.1	98.5 - 101.5

Lab Sample ID: 550-162152-E-21 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.3	H5	7.3	H5	SU		0.5	5
Temperature	13.9	H5	13.5	H5	Degrees C		3	

Lab Sample ID: 550-162157-3 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: CH-CCR-M44D-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	H5	7.0	H5	SU		0.1	5
Temperature	15.1	H5	14.2	H5	Degrees C		6	

Lab Sample ID: 550-162157-28 DU
Matrix: Water
Analysis Batch: 240071

Client Sample ID: CH-CCR-FD05-0421
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.0	H5	7.1	H5	SU		0.7	5
Temperature	12.0	H5	11.8	H5	Degrees C		2	

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-240294/34
Matrix: Water
Analysis Batch: 240294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			04/23/21 02:52	1

Lab Sample ID: LCS 550-240294/35
Matrix: Water
Analysis Batch: 240294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	19.1		mg/L		95	90 - 110
Total Organic Carbon - Duplicates	20.0	19.1		mg/L		95	90 - 110
Total Organic Carbon - Quad	20.0	19.1		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-240294/36
Matrix: Water
Analysis Batch: 240294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	18.6		mg/L		93	90 - 110	3	20
Total Organic Carbon - Duplicates	20.0	18.6		mg/L		93	90 - 110	3	20
Total Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110	3	20

Lab Sample ID: 550-162123-A-5 MS
Matrix: Water
Analysis Batch: 240294

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.3		20.0	24.1		mg/L		94	90 - 110
Total Organic Carbon - Duplicates	5.3		20.0	24.1		mg/L		94	90 - 110
Total Organic Carbon - Quad	5.3		20.0	24.1		mg/L		94	90 - 110

Lab Sample ID: 550-162123-A-5 MSD
Matrix: Water
Analysis Batch: 240294

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.3		20.0	24.3		mg/L		95	90 - 110	1	20
Total Organic Carbon - Duplicates	5.3		20.0	24.3		mg/L		95	90 - 110	1	20
Total Organic Carbon - Quad	5.3		20.0	24.3		mg/L		95	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-240539/34
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/24/21 19:06	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/24/21 19:06	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-240539/34
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/24/21 19:06	1

Lab Sample ID: MB 550-240539/5
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/24/21 12:59	1

Lab Sample ID: LCS 550-240539/35
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110

Lab Sample ID: LCS 550-240539/6
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.6		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.6		mg/L		93	90 - 110

Lab Sample ID: LCSD 550-240539/36
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.5		mg/L		92	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.5		mg/L		92	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	18.5		mg/L		92	90 - 110	1	20

Lab Sample ID: LCSD 550-240539/7
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110	1	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 550-240539/7
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon - Quad			20.0	18.4		mg/L		92	90 - 110	1	20

Lab Sample ID: 550-162152-B-19 MSD
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.6	M2	20.0	17.7	M2	mg/L		81	90 - 110	4	20

Lab Sample ID: 550-162152-C-19 MS
Matrix: Water
Analysis Batch: 240539

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Duplicate	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110
Dissolved Organic Carbon - Quad	1.6	M2	20.0	18.5	M2	mg/L		85	90 - 110

Lab Sample ID: 550-162157-12 MS
Matrix: Water
Analysis Batch: 240539

Client Sample ID: CH-CCR-M64-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	4.6	M2	20.0	23.0		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	4.6	M2	20.0	23.0		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	4.6	M2	20.0	23.0		mg/L		92	90 - 110

Lab Sample ID: 550-162157-12 MSD
Matrix: Water
Analysis Batch: 240539

Client Sample ID: CH-CCR-M64-0421
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.6	M2	20.0	19.9	M2	mg/L		77	90 - 110	14	20
Dissolved Organic Carbon - Duplicate	4.6	M2	20.0	19.9	M2	mg/L		77	90 - 110	14	20
Dissolved Organic Carbon - Quad	4.6	M2	20.0	19.9	M2	mg/L		77	90 - 110	14	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-240618/5
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 240618

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/27/21 14:33	1

Lab Sample ID: LCS 550-240618/6
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 240618

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.8		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.8		mg/L		94	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-240618/7
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 240618

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		94	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-162152-C-3 MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 240618

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.4	M2	20.0	16.9	M2	mg/L		77	90 - 110
Dissolved Organic Carbon - Duplicate	1.4	M2	20.0	16.9	M2	mg/L		77	90 - 110
Dissolved Organic Carbon - Quad	1.4	M2	20.0	16.9	M2	mg/L		77	90 - 110

Lab Sample ID: 550-162152-D-3 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Dissolved
Analysis Batch: 240618

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.4	M2	20.0	18.8	M2	mg/L		87	90 - 110	11	20
Dissolved Organic Carbon - Duplicate	1.4	M2	20.0	18.8	M2	mg/L		87	90 - 110	11	20
Dissolved Organic Carbon - Quad	1.4	M2	20.0	18.8	M2	mg/L		87	90 - 110	11	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-241040/5
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			04/29/21 17:01	1

Lab Sample ID: LCS 550-241040/6
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.0		mg/L		105	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.0		mg/L		105	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.0		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-241040/7
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.7		mg/L		94	90 - 110	11	20
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		94	90 - 110	11	20
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		94	90 - 110	11	20

Lab Sample ID: 550-162152-C-3 MS
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Duplicate	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110
Dissolved Organic Carbon - Quad	1.3	M2	20.0	19.0	M2	mg/L		88	90 - 110

Lab Sample ID: 550-162152-D-3 MSD
Matrix: Water
Analysis Batch: 241040

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20
Dissolved Organic Carbon - Quad	1.3	M2	20.0	18.3	M2	mg/L		85	90 - 110	4	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

HPLC/IC

Analysis Batch: 239970

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	300.0	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	300.0	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	300.0	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	300.0	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	300.0	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	300.0	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	300.0	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	300.0	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	300.0	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	300.0	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	300.0	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	300.0	
MB 550-239970/1030	Method Blank	Total/NA	Water	300.0	
MB 550-239970/1058	Method Blank	Total/NA	Water	300.0	
LCS 550-239970/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239970/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162059-B-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-162059-B-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 239973

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	300.0	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	300.0	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	300.0	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	300.0	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	300.0	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	300.0	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	300.0	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	300.0	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	300.0	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	300.0	
MB 550-239973/1030	Method Blank	Total/NA	Water	300.0	
MB 550-239973/2	Method Blank	Total/NA	Water	300.0	
LCS 550-239973/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239973/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-161801-I-9 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-161801-I-9 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 239979

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	300.0	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	300.0	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	300.0	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	300.0	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	300.0	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	300.0	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	300.0	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	300.0	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	300.0	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	300.0	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 239979 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	300.0	
MB 550-239979/1030	Method Blank	Total/NA	Water	300.0	
MB 550-239979/1058	Method Blank	Total/NA	Water	300.0	
LCS 550-239979/59	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-239979/60	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	300.0	
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	300.0	

Analysis Batch: 240268

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	300.0	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	300.0	
MB 550-240268/1031	Method Blank	Total/NA	Water	300.0	
MB 550-240268/1057	Method Blank	Total/NA	Water	300.0	
LCS 550-240268/32	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240268/33	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162157-5 MS	CH-CCR-M46-0421	Total/NA	Water	300.0	
550-162157-5 MSD	CH-CCR-M46-0421	Total/NA	Water	300.0	

Analysis Batch: 240345

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	300.0	
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	300.0	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	300.0	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	300.0	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	300.0	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	300.0	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	300.0	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	300.0	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	300.0	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	300.0	
MB 550-240345/2	Method Blank	Total/NA	Water	300.0	
LCS 550-240345/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-240345/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-162157-1 MS	CH-CCR-M43-0421	Total/NA	Water	300.0	
550-162157-1 MSD	CH-CCR-M43-0421	Total/NA	Water	300.0	

Metals

Prep Batch: 239848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.7	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.7	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.7	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.7	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.7	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.7	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.7	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.7	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 239848 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.7	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.7	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.7	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.7	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.7	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.7	
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	200.7	
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	200.7	

Prep Batch: 239913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.8	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.8	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.8	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.8	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.8	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.8	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.8	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.8	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.8	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.8	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.8	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.8	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.8	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.8	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.8	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.8	
MB 550-239913/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-239913/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-239913/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	200.8	
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	200.8	

Prep Batch: 239926

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-6	CH-CCR-M46-0421	Dissolved	Water	200.7	
550-162157-8	CH-CCR-M50-0421	Dissolved	Water	200.7	
550-162157-10	CH-CCR-M51-0421	Dissolved	Water	200.7	
550-162157-13	CH-CCR-M64-0421	Dissolved	Water	200.7	
550-162157-15	CH-CCR-M65-0421	Dissolved	Water	200.7	
550-162157-17	CH-CCR-M66-0421	Dissolved	Water	200.7	
550-162157-19	CH-CCR-M67-0421	Dissolved	Water	200.7	
550-162157-21	CH-CCR-W123-0421	Dissolved	Water	200.7	
550-162157-24	CH-CCR-W126-0421	Dissolved	Water	200.7	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.7	
MB 550-239926/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-239926/2-A	Lab Control Sample	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 239926 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-239926/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162159-E-2-A MS	Matrix Spike	Total/NA	Water	200.7	
550-162159-E-2-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-162159-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-162159-E-2-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 240067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-2	CH-CCR-M43-0421	Dissolved	Water	200.7	
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-162152-A-30-A MS	Matrix Spike	Dissolved	Water	200.7	
550-162152-A-30-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Analysis Batch: 240086

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.7 Rev 4.4	239848
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239848
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239848
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	200.7 Rev 4.4	239848

Prep Batch: 240171

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	245.1	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	245.1	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	245.1	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	245.1	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	245.1	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	245.1	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	245.1	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	245.1	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	245.1	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	245.1	

Metals (Continued)

Prep Batch: 240171 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	245.1	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	245.1	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	245.1	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	245.1	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	245.1	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	245.1	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	245.1	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	245.1	
MB 550-240171/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-240171/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-240171/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	245.1	
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	245.1	

Analysis Batch: 240198

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	245.1	240171
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	245.1	240171
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	245.1	240171
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	245.1	240171
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	245.1	240171
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	245.1	240171
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	245.1	240171
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	245.1	240171
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	245.1	240171
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	245.1	240171
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	245.1	240171
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	245.1	240171
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	245.1	240171
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	245.1	240171
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	245.1	240171
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	245.1	240171
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	245.1	240171
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	245.1	240171
MB 550-240171/1-A	Method Blank	Total/NA	Water	245.1	240171
LCS 550-240171/2-A	Lab Control Sample	Total/NA	Water	245.1	240171
LCSD 550-240171/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	240171
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	245.1	240171
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	245.1	240171

Analysis Batch: 240216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.7 Rev 4.4	239848

Metals (Continued)

Analysis Batch: 240216 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.7 Rev 4.4	239848
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239848
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239848
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239848

Analysis Batch: 240219

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-2	CH-CCR-M43-0421	Dissolved	Water	200.7 Rev 4.4	240067
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	240067
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	240067
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	240067
550-162152-A-30-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	240067
550-162152-A-30-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	240067

Analysis Batch: 240221

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-6	CH-CCR-M46-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-8	CH-CCR-M50-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-10	CH-CCR-M51-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-13	CH-CCR-M64-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-15	CH-CCR-M65-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-17	CH-CCR-M66-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-19	CH-CCR-M67-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-21	CH-CCR-W123-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-24	CH-CCR-W126-0421	Dissolved	Water	200.7 Rev 4.4	239926
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7 Rev 4.4	239926
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.7 Rev 4.4	239926
MB 550-239926/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239926
LCS 550-239926/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239926
LCSD 550-239926/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239926

Analysis Batch: 240432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7 Rev 4.4	239926
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7 Rev 4.4	239926
MB 550-239926/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239926
LCS 550-239926/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239926
LCSD 550-239926/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239926
550-162159-E-2-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	239926

Analysis Batch: 240455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.7 Rev 4.4	239848
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.7 Rev 4.4	239848
MB 550-239848/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	239848

Metals (Continued)

Analysis Batch: 240455 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-239848/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	239848
LCSD 550-239848/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	239848

Analysis Batch: 240458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-2	CH-CCR-M43-0421	Dissolved	Water	200.7 Rev 4.4	240067
MB 550-240067/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	240067
LCS 550-240067/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	240067
LCSD 550-240067/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	240067
550-162152-A-30-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	240067
550-162152-A-30-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	240067

Analysis Batch: 240464

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.8 LL	239913
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.8 LL	239913
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.8 LL	239913
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.8 LL	239913
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.8 LL	239913
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.8 LL	239913
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.8 LL	239913
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.8 LL	239913
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.8 LL	239913
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.8 LL	239913
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.8 LL	239913
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.8 LL	239913
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.8 LL	239913
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.8 LL	239913
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.8 LL	239913
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.8 LL	239913
MB 550-239913/1-A	Method Blank	Total/NA	Water	200.8 LL	239913
LCS 550-239913/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	239913
LCSD 550-239913/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	239913
550-162157-3 MS	CH-CCR-M44D-0421	Total/NA	Water	200.8 LL	239913
550-162157-3 MSD	CH-CCR-M44D-0421	Total/NA	Water	200.8 LL	239913

Analysis Batch: 240469

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.8 LL	239913

Prep Batch: 240803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-2	CH-CCR-M43-0421	Dissolved	Water	200.8	
550-162157-6	CH-CCR-M46-0421	Dissolved	Water	200.8	
550-162157-8	CH-CCR-M50-0421	Dissolved	Water	200.8	
550-162157-10	CH-CCR-M51-0421	Dissolved	Water	200.8	
550-162157-13	CH-CCR-M64-0421	Dissolved	Water	200.8	
550-162157-15	CH-CCR-M65-0421	Dissolved	Water	200.8	
550-162157-17	CH-CCR-M66-0421	Dissolved	Water	200.8	
550-162157-19	CH-CCR-M67-0421	Dissolved	Water	200.8	
550-162157-21	CH-CCR-W123-0421	Dissolved	Water	200.8	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals (Continued)

Prep Batch: 240803 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-24	CH-CCR-W126-0421	Dissolved	Water	200.8	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.8	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.8	
MB 550-240803/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-240803/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-240803/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-162220-D-1-C MS	Matrix Spike	Total/NA	Water	200.8	
550-162220-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 241021

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-2	CH-CCR-M43-0421	Dissolved	Water	200.8 LL	240803
550-162157-6	CH-CCR-M46-0421	Dissolved	Water	200.8 LL	240803
550-162157-8	CH-CCR-M50-0421	Dissolved	Water	200.8 LL	240803
550-162157-10	CH-CCR-M51-0421	Dissolved	Water	200.8 LL	240803
550-162157-13	CH-CCR-M64-0421	Dissolved	Water	200.8 LL	240803
550-162157-15	CH-CCR-M65-0421	Dissolved	Water	200.8 LL	240803
550-162157-17	CH-CCR-M66-0421	Dissolved	Water	200.8 LL	240803
550-162157-19	CH-CCR-M67-0421	Dissolved	Water	200.8 LL	240803
550-162157-21	CH-CCR-W123-0421	Dissolved	Water	200.8 LL	240803
550-162157-24	CH-CCR-W126-0421	Dissolved	Water	200.8 LL	240803
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.8 LL	240803
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.8 LL	240803
MB 550-240803/1-A	Method Blank	Total/NA	Water	200.8 LL	240803
LCS 550-240803/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	240803
LCSD 550-240803/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	240803
550-162220-D-1-C MS	Matrix Spike	Total/NA	Water	200.8 LL	240803
550-162220-D-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	240803

Prep Batch: 534428

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.7	
MB 280-534428/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534428/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-14 MS	CH-CCR-M65-0421	Total/NA	Water	200.7	
550-162157-14 MSD	CH-CCR-M65-0421	Total/NA	Water	200.7	

Prep Batch: 534429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.7	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.7	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.7	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.7	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.7	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.7	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.7	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.7	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.7	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.7	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.7	
MB 280-534429/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 534429 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 280-534429/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-4 MS	CH-CCR-M45-0421	Total/NA	Water	200.7	
550-162157-4 MSD	CH-CCR-M45-0421	Total/NA	Water	200.7	

Prep Batch: 534431

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.7	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.7	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.7	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.7	
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-162157-5 MS	CH-CCR-M46-0421	Total/NA	Water	200.7	
550-162157-5 MSD	CH-CCR-M46-0421	Total/NA	Water	200.7	

Analysis Batch: 534781

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	200.7 Rev 4.4	534431
MB 280-534428/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534428
MB 280-534429/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534429
MB 280-534431/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	534431
LCS 280-534428/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534428
LCS 280-534429/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534429
LCS 280-534431/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-4 MS	CH-CCR-M45-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-4 MSD	CH-CCR-M45-0421	Total/NA	Water	200.7 Rev 4.4	534429
550-162157-5 MS	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-5 MSD	CH-CCR-M46-0421	Total/NA	Water	200.7 Rev 4.4	534431
550-162157-14 MS	CH-CCR-M65-0421	Total/NA	Water	200.7 Rev 4.4	534428
550-162157-14 MSD	CH-CCR-M65-0421	Total/NA	Water	200.7 Rev 4.4	534428

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

General Chemistry

Analysis Batch: 239805

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	SM 2540C	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	SM 2540C	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	SM 2540C	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	SM 2540C	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	SM 2540C	
MB 550-239805/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-239805/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-239805/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-161899-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 239953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	SM 2540C	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	SM 2540C	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	SM 2540C	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	SM 2540C	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	SM 2540C	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	SM 2540C	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	SM 2540C	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	SM 2540C	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	SM 2540C	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	SM 2540C	
MB 550-239953/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-239953/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-239953/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-161956-D-17 DU	Duplicate	Total/NA	Water	SM 2540C	
550-162157-11 DU	CH-CCR-M63-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-4	CH-CCR-M45-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-11	CH-CCR-M63-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-22	CH-CCR-W125-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-240071/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 240071 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSSRM 550-240071/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-162152-E-21 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-162157-3 DU	CH-CCR-M44D-0421	Total/NA	Water	SM 4500 H+ B	
550-162157-28 DU	CH-CCR-FD05-0421	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 240102

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-3	CH-CCR-M44D-0421	Total/NA	Water	SM 2540C	
550-162157-28	CH-CCR-FD05-0421	Total/NA	Water	SM 2540C	
MB 550-240102/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240102/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240102/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162124-B-30 DU	Duplicate	Total/NA	Water	SM 2540C	
550-162157-3 DU	CH-CCR-M44D-0421	Total/NA	Water	SM 2540C	

Analysis Batch: 240280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Total/NA	Water	350.1	
550-162157-5	CH-CCR-M46-0421	Total/NA	Water	350.1	
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	350.1	
550-162157-9	CH-CCR-M51-0421	Total/NA	Water	350.1	
550-162157-12	CH-CCR-M64-0421	Total/NA	Water	350.1	
550-162157-14	CH-CCR-M65-0421	Total/NA	Water	350.1	
550-162157-16	CH-CCR-M66-0421	Total/NA	Water	350.1	
550-162157-18	CH-CCR-M67-0421	Total/NA	Water	350.1	
550-162157-20	CH-CCR-W123-0421	Total/NA	Water	350.1	
550-162157-23	CH-CCR-W126-0421	Total/NA	Water	350.1	
MB 550-240280/21	Method Blank	Total/NA	Water	350.1	
MB 550-240280/60	Method Blank	Total/NA	Water	350.1	
LCS 550-240280/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-240280/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-240280/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-240280/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-162157-12 MS	CH-CCR-M64-0421	Total/NA	Water	350.1	
550-162157-12 MSD	CH-CCR-M64-0421	Total/NA	Water	350.1	
550-162340-B-2 MS	Matrix Spike	Total/NA	Water	350.1	
550-162340-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 240294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	SM 5310B	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	SM 5310B	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	SM 5310B	
MB 550-240294/34	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-240294/35	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-240294/36	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-162123-A-5 MS	Matrix Spike	Total/NA	Water	SM 5310B	
550-162123-A-5 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

General Chemistry

Analysis Batch: 240375

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-25	CH-CCR-GeronC-0421	Total/NA	Water	SM 2320B	
550-162157-26	CH-CCR-GeronD-0421	Total/NA	Water	SM 2320B	
550-162157-27	CH-CCR-HuntB-0421	Total/NA	Water	SM 2320B	
MB 550-240375/34	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-240375/33	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-240375/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-162152-E-34 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 240411

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-7	CH-CCR-M50-0421	Total/NA	Water	SM 2540C	
MB 550-240411/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-240411/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-240411/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-162158-A-5 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 240539

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-5	CH-CCR-M46-0421	Dissolved	Water	SM 5310B	
550-162157-7	CH-CCR-M50-0421	Dissolved	Water	SM 5310B	
550-162157-9	CH-CCR-M51-0421	Dissolved	Water	SM 5310B	
550-162157-12	CH-CCR-M64-0421	Dissolved	Water	SM 5310B	
550-162157-16	CH-CCR-M66-0421	Dissolved	Water	SM 5310B	
550-162157-18	CH-CCR-M67-0421	Dissolved	Water	SM 5310B	
550-162157-20	CH-CCR-W123-0421	Dissolved	Water	SM 5310B	
550-162157-23	CH-CCR-W126-0421	Dissolved	Water	SM 5310B	
MB 550-240539/34	Method Blank	Dissolved	Water	SM 5310B	
MB 550-240539/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-240539/35	Lab Control Sample	Dissolved	Water	SM 5310B	
LCS 550-240539/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-240539/36	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
LCSD 550-240539/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-162152-B-19 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-162152-C-19 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-162157-12 MS	CH-CCR-M64-0421	Dissolved	Water	SM 5310B	
550-162157-12 MSD	CH-CCR-M64-0421	Dissolved	Water	SM 5310B	

Analysis Batch: 240618

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-14	CH-CCR-M65-0421	Dissolved	Water	SM 5310B	
MB 550-240618/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-240618/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-240618/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-162152-C-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-162152-D-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 241040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-162157-1	CH-CCR-M43-0421	Dissolved	Water	SM 5310B	
MB 550-241040/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-241040/6	Lab Control Sample	Dissolved	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 241040 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-241040/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-162152-C-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-162152-D-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Client Sample ID: CH-CCR-M43-0421
Lab Sample ID: 550-162157-1
Date Collected: 04/14/21 13:14
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 17:43	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 18:02	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 17:58	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:02	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	240216	04/22/21 18:11	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:02	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:36	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:14	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:29	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	241040	04/29/21 18:14	MEG	TAL PHX

Client Sample ID: CH-CCR-M43-0421
Lab Sample ID: 550-162157-2
Date Collected: 04/14/21 13:14
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			240067	04/21/21 19:58	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240219	04/22/21 21:47	MGM	TAL PHX
Dissolved	Prep	200.7			240067	04/21/21 19:58	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240458	04/25/21 09:53	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 07:54	MGM	TAL PHX

Client Sample ID: CH-CCR-M44D-0421
Lab Sample ID: 550-162157-3
Date Collected: 04/16/21 07:50
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/22/21 02:50	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/22/21 03:08	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 17:43	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:05	LMT	TAL DEN

Client Sample ID: CH-CCR-M44D-0421

Lab Sample ID: 550-162157-3

Date Collected: 04/16/21 07:50
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:34	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:13	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	240102		YET	TAL PHX
					(Start)	04/22/21 08:26		
					(End)	04/23/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-M45-0421

Lab Sample ID: 550-162157-4

Date Collected: 04/14/21 11:49
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 18:57	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 19:15	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:05	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:22	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:39	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-5

Date Collected: 04/14/21 15:28
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240268	04/22/21 20:28	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240268	04/22/21 20:46	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 19:20	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:09	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:15	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	240216	04/22/21 18:19	MGM	TAL PHX

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-5

Date Collected: 04/14/21 15:28
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 16:43	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:41	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:17	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:31	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 18:00	MEG	TAL PHX

Client Sample ID: CH-CCR-M46-0421

Lab Sample ID: 550-162157-6

Date Collected: 04/14/21 15:28
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:00	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 07:56	MGM	TAL PHX

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-7

Date Collected: 04/15/21 13:47
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/22/21 01:36	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/22/21 01:54	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 19:48	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:13	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:23	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:36	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:43	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:19	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:32	ZN1	TAL PHX

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-7

Date Collected: 04/15/21 13:47

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	240411		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 18:11	MEG	TAL PHX

Client Sample ID: CH-CCR-M50-0421

Lab Sample ID: 550-162157-8

Date Collected: 04/15/21 13:47

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:04	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 07:58	MGM	TAL PHX

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-9

Date Collected: 04/15/21 14:29

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/22/21 00:59	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/22/21 01:18	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 20:15	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:17	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:26	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:39	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:45	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:20	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:34	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 18:25	MEG	TAL PHX

Client Sample ID: CH-CCR-M51-0421

Lab Sample ID: 550-162157-10

Date Collected: 04/15/21 14:29
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:07	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:00	MGM	TAL PHX

Client Sample ID: CH-CCR-M63-0421

Lab Sample ID: 550-162157-11

Date Collected: 04/15/21 09:29
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/22/21 00:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/22/21 00:41	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:28	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:56	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:47	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:22	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-M64-0421

Lab Sample ID: 550-162157-12

Date Collected: 04/15/21 15:48
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/21/21 23:46	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/22/21 00:04	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 20:43	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:32	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:30	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 12:59	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:50	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:23	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:49	ZN1	TAL PHX

Client Sample ID: CH-CCR-M64-0421 | Lab Sample ID: 550-162157-12

Date Collected: 04/15/21 15:48 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 19:46	MEG	TAL PHX

Client Sample ID: CH-CCR-M64-0421 | Lab Sample ID: 550-162157-13

Date Collected: 04/15/21 15:48 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:11	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:02	MGM	TAL PHX

Client Sample ID: CH-CCR-M65-0421 | Lab Sample ID: 550-162157-14

Date Collected: 04/14/21 14:17 | **Matrix: Water**
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239979	04/21/21 23:09	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239979	04/21/21 23:27	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 21:10	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:36	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:34	MGM	TAL PHX
Total/NA	Prep	200.7			534428	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 14:49	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:52	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:25	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:53	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240618	04/27/21 16:23	MEG	TAL PHX

Client Sample ID: CH-CCR-M65-0421

Lab Sample ID: 550-162157-15

Date Collected: 04/14/21 14:17

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:15	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:04	MGM	TAL PHX

Client Sample ID: CH-CCR-M66-0421

Lab Sample ID: 550-162157-16

Date Collected: 04/15/21 07:25

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 21:18	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 21:37	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 21:38	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:39	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:38	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:02	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 12:54	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:26	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:55	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 20:36	MEG	TAL PHX

Client Sample ID: CH-CCR-M66-0421

Lab Sample ID: 550-162157-17

Date Collected: 04/15/21 07:25

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:19	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:06	MGM	TAL PHX

Client Sample ID: CH-CCR-M67-0421
Lab Sample ID: 550-162157-18
Date Collected: 04/14/21 16:25
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 20:42	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 21:00	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 22:05	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:43	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	240216	04/22/21 18:45	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:06	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:02	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:31	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:56	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239805		YET	TAL PHX
					(Start)	04/20/21 08:01		
					(End)	04/21/21 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 20:48	MEG	TAL PHX

Client Sample ID: CH-CCR-M67-0421
Lab Sample ID: 550-162157-19
Date Collected: 04/14/21 16:25
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:22	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:08	MGM	TAL PHX

Client Sample ID: CH-CCR-W123-0421
Lab Sample ID: 550-162157-20
Date Collected: 04/15/21 10:50
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 20:05	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 20:23	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 22:32	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:47	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240216	04/22/21 18:57	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:09	LMT	TAL DEN

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-W123-0421

Lab Sample ID: 550-162157-20

Date Collected: 04/15/21 10:50
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:04	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:32	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:58	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 21:00	MEG	TAL PHX

Client Sample ID: CH-CCR-W123-0421

Lab Sample ID: 550-162157-21

Date Collected: 04/15/21 10:50
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:26	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:10	MGM	TAL PHX

Client Sample ID: CH-CCR-W125-0421

Lab Sample ID: 550-162157-22

Date Collected: 04/15/21 12:53
Date Received: 04/19/21 10:41

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 19:28	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 19:46	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:51	MGM	TAL PHX
Total/NA	Prep	200.7			534429	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 13:12	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:06	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:34	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Client Sample ID: CH-CCR-W126-0421

Lab Sample ID: 550-162157-23
Date Collected: 04/15/21 08:15
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 18:51	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 19:10	JRP	TAL PHX
Total/NA	Analysis	300.0		5	239973	04/20/21 23:00	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:55	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	240455	04/25/21 08:37	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:23	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:08	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:36	SRR	TAL PHX
Total/NA	Analysis	350.1		1	240280	04/23/21 08:59	ZN1	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Dissolved	Analysis	SM 5310B		1	240539	04/24/21 21:12	MEG	TAL PHX

Client Sample ID: CH-CCR-W126-0421

Lab Sample ID: 550-162157-24
Date Collected: 04/15/21 08:15
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:30	MGM	TAL PHX
Dissolved	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	241021	04/30/21 08:13	MGM	TAL PHX

Client Sample ID: CH-CCR-GeronC-0421

Lab Sample ID: 550-162157-25
Date Collected: 04/15/21 11:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 19:34	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 19:52	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 18:58	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	240455	04/25/21 08:41	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:26	LMT	TAL DEN

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-GeronC-0421
Lab Sample ID: 550-162157-25
Date Collected: 04/15/21 11:30
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		4	240469	04/26/21 12:05	ARE	TAL PHX
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:10	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:37	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 17:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 05:08	MEG	TAL PHX

Client Sample ID: CH-CCR-GeronD-0421
Lab Sample ID: 550-162157-26
Date Collected: 04/15/21 12:12
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 20:11	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 20:29	JRP	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240086	04/21/21 19:02	MGM	TAL PHX
Total/NA	Prep	200.7			239848	04/20/21 11:10	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	240455	04/25/21 08:45	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:30	LMT	TAL DEN
Total/NA	Prep	200.8			239913	04/20/21 18:25	SXF	TAL PHX
Total/NA	Analysis	200.8 LL		2	240464	04/26/21 13:12	ARE	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:39	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 17:16	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 05:21	MEG	TAL PHX

Client Sample ID: CH-CCR-HuntB-0421
Lab Sample ID: 550-162157-27
Date Collected: 04/15/21 08:40
Matrix: Water
Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	240345	04/23/21 21:24	JRP	TAL PHX
Total/NA	Analysis	300.0		200	240345	04/23/21 21:43	JRP	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Client Sample ID: CH-CCR-HuntB-0421

Lab Sample ID: 550-162157-27

Date Collected: 04/15/21 08:40

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:41	MGM	TAL PHX
Total/NA	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	240432	04/25/21 10:28	MGM	TAL PHX
Total/NA	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240432	04/25/21 10:54	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:33	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:35	MGM	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:40	SRR	TAL PHX
Total/NA	Analysis	SM 2320B		1	240375	04/24/21 17:24	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	239953		YET	TAL PHX
					(Start)	04/21/21 08:31		
					(End)	04/22/21 10:15		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX
Total/NA	Analysis	SM 5310B		1	240294	04/23/21 05:33	MEG	TAL PHX

Client Sample ID: CH-CCR-FD05-0421

Lab Sample ID: 550-162157-28

Date Collected: 04/16/21 07:50

Matrix: Water

Date Received: 04/19/21 10:41

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	239970	04/21/21 17:38	JRP	TAL PHX
Total/NA	Analysis	300.0		200	239970	04/21/21 17:56	JRP	TAL PHX
Total/NA	Prep	200.7			239926	04/20/21 21:44	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	240221	04/23/21 01:45	MGM	TAL PHX
Total/NA	Prep	200.7			534431	04/30/21 15:50	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	534781	05/03/21 15:36	LMT	TAL DEN
Total/NA	Prep	200.8			240803	04/29/21 07:01	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	241021	04/30/21 07:37	MGM	TAL PHX
Total/NA	Prep	245.1			240171	04/22/21 15:21	SRR	TAL PHX
Total/NA	Analysis	245.1		1	240198	04/22/21 19:41	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	240102		YET	TAL PHX
					(Start)	04/22/21 08:26		
					(End)	04/23/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	240071	04/21/21 18:30	CMM	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Iowa	State	IA#370	12-02-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-162157-1

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

162157

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

550-162157 Chain of Custody

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	Sample Specific Notes:
CH-CCR-M43-0421	4/14/2021	13:14	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		Low flow 1+2
CH-CCR-M44D-0421	4/16/21	07:50	G	W	2	N	Y	X			X		X	X	X				X	" 3
CH-CCR-M45-0421	4/14/2021	11:49	G	W	2	N	N	X			X		X	X	X				X	" 4
CH-CCR-M46-0421	4/14/2021	15:28	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 5+6
CH-CCR-M50-0421	4/15/2021	13:47	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 7+8
CH-CCR-M51-0421	4/15/2021	14:29	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 9+10
CH-CCR-M63-0421	4/15/2021	09:29	G	W	2	N	N	X			X		X	X	X				X	" 11
CH-CCR-M64-0421	4/15/2021	15:48	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 12+13
CH-CCR-M65-0421	4/14/2021	14:17	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 14+15
CH-CCR-M66-0421	4/15/2021	07:25	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 16+17
CH-CCR-M67-0421	4/14/2021	16:25	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 18+19
CH-CCR-W123-0421	4/15/2021	10:50	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X		" 20+21
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3	4	4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

4.2 | 3.3 | 3.0 | 5.8 | 4.0

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by: Mani Wadler	Company: Wood	Date/Time: 4/19/21 10:41	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 4/19/21 1441

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

CPv

162157

5/4/2021

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact			
Arizona Public Service	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
4801 Cholla Lake Rd	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
Joseph City, AZ 86032	**Analysis Turnaround Time**		COC No: 2 of 2 COCs
(928) 587-0319 Phone	☐ CALENDAR DAYS ☑ WORKING DAYS		Sampler:
FAX	TAT if different from Below ______		**For Lab Use Only:**
Project Name: CCR Groundwater Monitoring	☑ 2 weeks		Walk-in Client:
Site: APS Cholla Power Plant (FAP)	☐ 1 week		Lab Sampling:
PO #: 300588233	☐ 2 days		Job / SDG No.:
	☐ 1 day		

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	EPA 200.7 - Totals (B, Ca, Be, Li, K, Mg, Na)	SM 5310B (TOC)	SM 2320B - CO3 & HCO3 Alkalinity as CaCO3	Sample Specific Notes:
CH-CCR-W125-0421	4/15/2021	12:53	G	W	2	N	N	X			X		X	X	X				X				Low Flow 22
CH-CCR-W126-0421	4/15/2021	08:15	G	W	8	*	N	X	X	X	X	X	X	X	X	X	X	X					" 23+24
CH-CCR-GeronC-0421	4/15/2021	11:30	G	W	6	N	N	X			X		X	X	X					X	X	X	Seepage sample 25
CH-CCR-GeronD-0421	4/15/2021	12:12	G	W	6	N	N	X			X		X	X	X					X	X	X	Seepage sample 26
CH-CCR-HuntB-0421	4/15/2021	08:40	G	W	6	N	N	X			X		X	X	X					X	X	X	Seepage sample 27
CH-CCR-FD05-0421	4/16/2021	07:50	G	W	2	N	N	X			X		X	X	X				X				Low Flow, Field Dupe 28
CH-CCR-M44-0421-MS	4/16/2021	07:50	G	W	2	N	N	X			X		X	X	X				X				Low Flow, MS ~~29~~ 1-3
CH-CCR-M44-0421-SD	4/16/2021	07:50	G	W	2	N	N	X			X		X	X	X				X				Low Flow, MSD ~~30~~ 1-3
																							CO 4/19/21
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3	4				

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

4.2 | 3.3 | 3.0 | 5.8 | 4.0

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd:______ Corr'd:______		Therm ID No.:______
Relinquished by: Maia Woolley	Company: Wood	Date/Time: 4/19/21 10:41	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 4/19/21 10:41

CPD

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-30727.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-162157-1
Address: 4955 Yarrow Street,	Due Date Requested: 5/2/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M43-0421 (550-162157-1)	4/14/21	13:14 Arizona		Water			X	1	AZ Sample
CH-CCR-M44D-0421 (550-162157-3)	4/16/21	07:50 Arizona		Water			X	2	AZ Sample
CH-CCR-M45-0421 (550-162157-4)	4/14/21	11:49 Arizona		Water			X	1	AZ Sample
CH-CCR-M46-0421 (550-162157-5)	4/14/21	15:28 Arizona		Water			X	1	AZ Sample
CH-CCR-M50-0421 (550-162157-7)	4/15/21	13:47 Arizona		Water			X	1	AZ Sample
CH-CCR-M51-0421 (550-162157-9)	4/15/21	14:29 Arizona		Water			X	1	AZ Sample
CH-CCR-M63-0421 (550-162157-11)	4/15/21	09:29 Arizona		Water			X	1	AZ Sample
CH-CCR-M64-0421 (550-162157-12)	4/15/21	15:48 Arizona		Water			X	1	AZ Sample
CH-CCR-M65-0421 (550-162157-14)	4/14/21	14:17 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:		Time:	Method of Shipment:	
Relinquished by: Emre 04-27	Date/Time: 21 16:00	Company: TA-PHX	Received by: FedEx	Date/Time:	Company:
Relinquished by: FEDEX	Date/Time:	Company:	Received by: [illegible]	Date/Time: 04/29/21 1045	Company: ETA DSL
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 0.6, T211, CF+0.4, PW, 04/29/21

Ver: 11/01/2020

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
Company: TestAmerica Laboratories, Inc.
Address: 4955 Yarrow Street,
City: Arvada
State, Zip: CO, 80002
Phone: 303-736-0100(Tel) 303-431-7171(Fax)
Email:
Project Name: CCR Groundwater Monitoring
Site: Arizona Public Service

Sampler:
Phone:
Due Date Requested: 5/2/2021
TAT Requested (days):
PO #:
WO #:
Project #: 55009651
SSOW#:

Lab PM: Baker, Ken
E-Mail: Ken.Baker@Eurofinset.com
Carrier Tracking No(s):
State of Origin: Arizona
Accreditations Required (See note): State Program - Arizona

COC No: 550-30727.2
Page: Page 2 of 2
Job #: 550-162157-1

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M66-0421 (550-162157-16)	4/15/21	07:25 Arizona		Water			X	1	AZ Sample
CH-CCR-M67-0421 (550-162157-18)	4/14/21	16:25 Arizona		Water			X	1	AZ Sample
CH-CCR-W123-0421 (550-162157-20)	4/15/21	10:50 Arizona		Water			X	1	AZ Sample
CH-CCR-W125-0421 (550-162157-22)	4/15/21	12:53 Arizona		Water			X	1	AZ Sample
CH-CCR-W126-0421 (550-162157-23)	4/15/21	08:15 Arizona		Water			X	1	AZ Sample
CH-CCR-GeronC-0421 (550-162157-25)	4/15/21	11:30 Arizona		Water			X	1	AZ Sample
CH-CCR-GeronD-0421 (550-162157-26)	4/15/21	12:12 Arizona		Water			X	1	AZ Sample
CH-CCR-HuntB-0421 (550-162157-27)	4/15/21	08:40 Arizona		Water			X	1	AZ Sample
CH-CCR-FD05-0421 (550-162157-28)	4/16/21	07:50 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature] 4-27-21	16:00	TA-PHX	Fedex		
FEDEX			[signature]	04/29/21 1045	ETADEN

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 0.6, IR11, CF+0.4, 1.0, 04/29/21

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company | Job Number: 550-162157-1

Login Number: 162157 | **List Source: Eurofins TestAmerica, Phoenix**
List Number: 1
Creator: Maycock, Lisa

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162157-1

Login Number: 162157
List Number: 2
Creator: Rystrom, Joshua R

List Source: Eurofins TestAmerica, Denver
List Creation: 04/29/21 06:32 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-162157-1

Login Number: 162157
List Number: 3
Creator: Petunin, Peter

List Source: Eurofins TestAmerica, Denver
List Creation: 04/29/21 08:09 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M43-0421	0.6 ± 0.2	< 0.7	0.6 ± 0.2

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

April 14, 2021 — Sample Date
13:14 (24 hour clock) — Sample Time

Owner/Contact Person: ______

Owner/Contact Fax Number: ______

Owner/Contact Phone Number: ______

Sample Collection Point
☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______
Date Q2 collected: ______
Date Q3 collected: ______
Date Q4 collected: ______

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	0.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66529
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M43-0421
Authorized Signature: Robert L. Metzger
Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44D-0421	1.9 ± 0.2	0.9 ± 0.3	2.8 ± 0.4

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/19/2021
Robert L. Metzger, Ph.D., C.H.P. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

April 16, 2021 — Sample Date
7:50 — Sample Time (24 hour clock)

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	2.8 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	1.9 ± 0.2		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	0.9 ± 0.3		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66530

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M44D-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M45-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/19/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________   PWS Name: ______________

April 14, 2021 — Sample Date
11:49 (24 hour clock) — Sample Time
______________ Owner/Contact Person

______________ Owner/Contact Fax Number
______________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66531
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M45-0421
Authorized Signature: Robert L Metzger
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M46-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 15, 2021 — Sample Date
15:28 (24 hour clock) — Sample Time

Owner/Contact Person ____________

Owner/Contact Fax Number ____________

Owner/Contact Phone Number ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66532

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M46-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
(480) 897-9459
Website: www.radsafe.com
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M50-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. — 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 15, 2021 | 13:47 (24 hour clock)

Sample Date | Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66533

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M50-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M51-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 15, 2021 | 14:29 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66534

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M51-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M63-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________

April 15, 2021 — Sample Date
9:29 (24 hour clock) — Sample Time
______________________ Owner/Contact Person

______________________ Owner/Contact Fax Number
______________________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: __________
☐ Quarterly — Date Q2 collected: __________
☐ Composite of four quarterly samples — Date Q3 collected: __________
Date Q4 collected: __________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66535
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M63-0421
Authorized Signature: Robert L. Metzger
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M64-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________

April 15, 2021 — Sample Date | 15:48 — Sample Time (24 hour clock) | ______________ Owner/Contact Person

______________ Owner/Contact Fax Number | ______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ________

☐ Quarterly — Date Q2 collected: ________

☐ Composite of four quarterly samples — Date Q3 collected: ________

Date Q4 collected: ________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66536

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M64-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M65-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. — Date: 5/19/2021

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 14, 2021 — Sample Date; 14:17 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66537

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M65-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 19, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M66-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/19/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 15, 2021 — Sample Date | 7:25 (24 hour clock) — Sample Time | ______________ Owner/Contact Person

______________ Owner/Contact Fax Number | ______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66538

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M66-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (FAP)**

Radiation Safety Engineering, Inc.

3245 North Washington Street

Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-M43-0421	4/14/2021	13:14	**GW**						**X**	**X**	**X**						66529
CH-CCR-M44D-0421	4/16/2021	7:50	**GW**						**X**	**X**	**X**						66530
CH-CCR-M45-0421	4/14/2021	11:49	**GW**						**X**	**X**	**X**						66531
CH-CCR-M46-0421	4/14/2021	15:28	**GW**						**X**	**X**	**X**						66532
CH-CCR-M50-0421	4/15/2021	13:47	**GW**						**X**	**X**	**X**						66533
CH-CCR-M51-0421	4/15/2021	14:29	**GW**						**X**	**X**	**X**						66534
CH-CCR-M63-0421	4/15/2021	9:29	**GW**						**X**	**X**	**X**						66535
CH-CCR-M64-0421	4/15/2021	15:48	**GW**						**X**	**X**	**X**						66536
CH-CCR-M65-0421	4/14/2021	14:17	**GW**						**X**	**X**	**X**						66537
CH-CCR-M66-0421	4/15/2021	7:25	**GW**						**X**	**X**	**X**						66538

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			**Method HPGe**
Chain of Custody Seals			**PO #: 300588231**
Container Condition			
Lab No.			

Relinguished By:	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4.29.21 12:10
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 14, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M67-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. 5/20/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

Sample Date	Sample Time		Owner/Contact Person
April 14, 2021	16:25	(24 hour clock)	

Owner/Contact Fax Number ____________ Owner/Contact Phone Number ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66539

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M67-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123-0421	< 0.4	< 0.7	< 0.7

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/20/2021
Robert L. Metzger, Ph.D., C.H.P. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 15, 2021 Sample Date | 10:50 Sample Time (24 hour clock) | Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________ Owner/Contact Phone Number: ______________

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66540
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W123-0421
Authorized Signature: Robert L Metzger
Date Public Water System Notified: ______________

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W125-0421	2.6 ± 0.3	1.2 ± 0.3	3.8 ± 0.4

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/20/2021
Robert L. Metzger, Ph.D., C.H.P. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

April 15, 2021 | 12:53 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	3.8 ± 0.4		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	2.6 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	1.2 ± 0.3		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66541

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W125-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126-0421	< 0.4	< 0.7	< 0.7
Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. — 5/20/2021 Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________________

April 15, 2021 — Sample Date
8:15 (24 hour clock) — Sample Time
Owner/Contact Person: ______________________________

Owner/Contact Fax Number: ______________________________
Owner/Contact Phone Number: ______________________________

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________
☐ Quarterly — Date Q2 collected: ____________
☐ Composite of four quarterly samples — Date Q3 collected: ____________
Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.7	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.7	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66542
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W126-0421
Authorized Signature: Robert L. Metzger
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-GeronC-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/20/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

April 15, 2021	11:30	(24 hour clock)	
Sample Date	Sample Time		Owner/Contact Person

Owner/Contact Fax Number ______ Owner/Contact Phone Number ______

Sample Collection Point

☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______

☐ Quarterly — Date Q2 collected: ______

☐ Composite of four quarterly samples — Date Q3 collected: ______

Date Q4 collected: ______

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8		
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66543

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-GeronC-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-GeronD-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/20/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______ PWS Name: ______

April 15, 2021 — 12:12 (24 hour clock)

Sample Date — Sample Time

Owner/Contact Person: ______

Owner/Contact Fax Number: ______

Owner/Contact Phone Number: ______

Sample Collection Point

☐ EPDS # ______

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______

☐ Quarterly — Date Q2 collected: ______

☐ Composite of four quarterly samples — Date Q3 collected: ______

Date Q4 collected: ______

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66544

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-GeronD-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 15, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-HuntB-0421	< 0.4	< 0.8	< 0.8

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/20/2021

Robert L. Metzger, Ph.D., C.H.P. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 15, 2021 — Sample Date
8:40 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	< 0.8	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	< 0.8	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66545

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-HuntB-0421

Authorized Signature: Robert L. Metzger

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 20, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD05-0421	1.6 ± 0.2	1.5 ± 0.4	3.1 ± 0.4

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

Robert L. Metzger, Ph.D., C.H.P. — 5/20/2021 (Date)

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 16, 2021 — Sample Date
7:50 — Sample Time (24 hour clock)

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	3.1 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	1.6 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	1.5 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66546

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD05-0421

Authorized Signature: Robert L Metzger

Date Public Water System Notified:

Radiation Safety Engineering, Inc.

3245 North Washington Street — Chandler, Arizona 85225

Analysis Request

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (FAP)**

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-M67-0421	4/14/2021	16:25	**GW**						**X**	**X**	**X**						66539
CH-CCR-W123-0421	4/15/2021	10:50	**GW**						**X**	**X**	**X**						66540
CH-CCR-W125-0421	4/15/2021	12:53	**GW**						**X**	**X**	**X**						66541
CH-CCR-W126-0421	4/15/2021	8:15	**GW**						**X**	**X**	**X**						66542
CH-CCR-GeronC-0421	4/15/2021	11:30	**GW**						**X**	**X**	**X**						66543
CH-CCR-GeronD-0421	4/15/2021	12:12	**GW**						**X**	**X**	**X**						66544
CH-CCR-HuntB-0421	4/15/2021	8:40	**GW**						**X**	**X**	**X**						66545
CH-CCR-FD05-0421	4/16/2021	7:50	**GW**						**X**	**X**	**X**						66546

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers			**Method HPGe**
Chain of Custody Seals			**PO #: 300588231**
Container Condition			
Lab No.			

Relinquished By: [signature]	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4.29.21 12:10
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44-0421-MS	1.9 ± 0.2	0.8 ± 0.4	2.7 ± 0.4

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

April 16, 2021 — Sample Date

7:50 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	2.7 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	1.9 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	0.8 ± 0.4	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66547

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M44-0421-MS

Authorized Signature:

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: April 16, 2021
Sample Received: April 29, 2021
Analysis Completed: May 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44-0421-SD	1.8 ± 0.2	0.9 ± 0.4	2.7 ± 0.4

Date of Analysis	5/6/2021	5/6/2021	5/6/2021

5/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

April 16, 2021 — Sample Date
7:50 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	5/6/2021	2.7 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	5/6/2021	1.8 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	5/6/2021	0.9 ± 0.4	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE66548
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-M44-0421-SD
Authorized Signature: [signature]
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street | Chandler, Arizona 85225

Analysis Request

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (FAP)**

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-M44-0421-MS	4/16/2021	7:50	**GW**						**X**	**X**	**X**						66547
CH-CCR-M44-0421-SD	4/16/2021	7:50	**GW**						**X**	**X**	**X**						66548

Sample Receipt	
Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments

Method HPGe

PO #: 300588231

Relinguished By:	Company: Wood	Date/time: 4/29/21 12:10	Received By: Pat Flannery	Company: RSE	Date/time: 4.29.21 12:10
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinguished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-165381-1
Client Project/Site: APS FAP (Cholla)

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/29/2021 7:01:48 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H1	Sample analysis performed past holding time.
H3	Sample was received and/ or analysis requested past holding time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Job ID: 550-165381-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-165381-1

Comments
No additional comments.

Receipt
The samples were received on 6/14/2021 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

Please verify project used to complete login.
Client did not list analytes needed for 300 and metals needed 200.7 and 200.8.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-245649 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-DEV-W126R-0621 (550-165381-1). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method SM 2320B: Reanalysis of the following samples were performed outside of the 14 day analytical holding time for Alkalinity by method SM 2320B due to an instrument failure that occurred during the initial run; CH-DEV-W126R-0621 (550-165381-1) and CH-DEV-W123R-0621 (550-165381-2). The initial analysis occurred within holding time although an instrument failure occurred interrupting the analytical run, therefore the initial run had no usable data. Reanalysis occurred promptly although the holding time had already been exceeded. As such, the data has been reported and qualified with H1 flags.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-165381-1	CH-DEV-W126R-0621	Water	06/04/21 12:50	06/14/21 14:00	
550-165381-2	CH-DEV-W123R-0621	Water	06/05/21 09:55	06/14/21 14:00	

1
2
3
4
5
6
7
8
9
10
11
12
13
14

Client Sample ID: CH-DEV-W126R-0621 — Lab Sample ID: 550-165381-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.64		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	40		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	410		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	49		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	4500	D2	5.0	0.31	mg/L	10		200.7 Rev 4.4	Total/NA
Antimony	0.000076	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0023		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0091		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000061	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0011		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0038		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.27		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0018		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	16000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-DEV-W123R-0621 — Lab Sample ID: 550-165381-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.0	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.48		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	31		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	30		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3800	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.000088	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0048		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.016		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000039	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00097	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0036		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.0012	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.35		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00024	D1	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-DEV-W126R-0621

Lab Sample ID: 550-165381-1
Date Collected: 06/04/21 12:50
Matrix: Water
Date Received: 06/14/21 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6600	D2	400	100	mg/L			06/26/21 08:55	200
Fluoride	5.0	D1	0.80	0.095	mg/L			06/26/21 08:28	2
Sulfate	3800	D2	400	85	mg/L			06/26/21 08:55	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 19:27	1
Lithium	0.64		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:45	1
Boron	40		0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 18:14	1
Calcium	750		2.0	0.013	mg/L		06/15/21 07:25	06/16/21 19:27	1
Magnesium	410		2.0	0.044	mg/L		06/15/21 07:25	06/16/21 19:27	1
Potassium	49		0.50	0.17	mg/L		06/15/21 07:25	06/16/21 19:27	1
Sodium	4500	D2	5.0	0.31	mg/L		06/15/21 07:25	06/18/21 16:04	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000076	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 13:10	1
Arsenic	0.0023		0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 13:10	1
Barium	0.0091		0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 13:10	1
Cadmium	0.000061	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 13:10	1
Chromium	0.0011		0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 13:10	1
Cobalt	0.0038		0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 13:10	1
Lead	ND	D1 E8	0.0010	0.00044	mg/L		06/16/21 08:27	06/25/21 18:51	2
Molybdenum	0.27		0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 13:10	1
Selenium	0.0018		0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 13:10	1
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L		06/16/21 08:27	06/25/21 18:51	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L			06/20/21 16:47	1
Bicarbonate Alkalinity as CaCO3	82	H1	6.0	6.0	mg/L			06/20/21 16:47	1
Carbonate Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Alkalinity, Phenolphthalein	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Hydroxide Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:47	1
Total Dissolved Solids	16000	D2 H3	200	200	mg/L			06/16/21 10:20	1

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2
Date Collected: 06/05/21 09:55
Matrix: Water
Date Received: 06/14/21 14:00

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5000	D2	400	100	mg/L			06/26/21 09:50	200
Fluoride	5.0	D1	0.80	0.095	mg/L			06/26/21 09:22	2
Sulfate	3100	D2	400	85	mg/L			06/26/21 09:50	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 19:31	1
Lithium	0.48		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:02	1
Boron	31		0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 18:18	1

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2

Date Collected: 06/05/21 09:55

Matrix: Water

Date Received: 06/14/21 14:00

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	750		2.0	0.013	mg/L		06/15/21 07:25	06/16/21 19:31	1
Magnesium	230		2.0	0.044	mg/L		06/15/21 07:25	06/16/21 19:31	1
Potassium	30		0.50	0.17	mg/L		06/15/21 07:25	06/16/21 19:31	1
Sodium	3800	D2	2.5	0.15	mg/L		06/15/21 07:25	06/17/21 18:11	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000088	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 13:12	1
Arsenic	0.0048		0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 13:12	1
Barium	0.016		0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 13:12	1
Cadmium	0.000039	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 13:12	1
Chromium	0.00097	E4	0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 13:12	1
Cobalt	0.0036		0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 13:12	1
Lead	0.0012	D1	0.0010	0.00044	mg/L		06/16/21 08:27	06/25/21 18:54	2
Molybdenum	0.35		0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 13:12	1
Selenium	0.0015		0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 13:12	1
Thallium	0.00024	D1	0.00020	0.000026	mg/L		06/16/21 08:27	06/25/21 18:54	2

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L			06/20/21 16:55	1
Bicarbonate Alkalinity as CaCO3	49	H1	6.0	6.0	mg/L			06/20/21 16:55	1
Carbonate Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Alkalinity, Phenolphthalein	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Hydroxide Alkalinity as CaCO3	ND	E8 H1	6.0	6.0	mg/L			06/20/21 16:55	1
Total Dissolved Solids	12000	D2 H3	200	200	mg/L			06/16/21 10:20	1

QC Sample Results

Client: Arizona Public Service Company	Job ID: 550-165381-1
Project/Site: APS FAP (Cholla)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246378/1030
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			06/26/21 01:09	1
Fluoride	ND	E8	0.40	0.047	mg/L			06/26/21 01:09	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/26/21 01:09	1

Lab Sample ID: LCS 550-246378/31
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.5		mg/L		103	90 - 110
Fluoride	4.00	4.07		mg/L		102	90 - 110
Sulfate	20.0	20.1		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-246378/32
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.08		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.1		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-166000-A-1 MS ^5
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	400	D2	100	498	D2	mg/L		103	80 - 120
Fluoride	0.50	E4 D1	20.0	20.9	D1	mg/L		102	80 - 120
Sulfate	3200	E2 M3 D2	100	3200	D2 E2 M3	mg/L		28	80 - 120

Lab Sample ID: 550-166000-A-1 MSD ^5
Matrix: Water
Analysis Batch: 246378

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	400	D2	100	497	D2	mg/L		102	80 - 120	0	20
Fluoride	0.50	E4 D1	20.0	21.0	D1	mg/L		102	80 - 120	0	20
Sulfate	3200	E2 M3 D2	100	3200	D2 E2 M3	mg/L		27	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-245252/1-A
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		06/15/21 07:25	06/16/21 17:57	1
Calcium	ND	E8	2.0	0.013	mg/L		06/15/21 07:25	06/16/21 17:57	1
Magnesium	ND	E8	2.0	0.044	mg/L		06/15/21 07:25	06/16/21 17:57	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-245252/1-A
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		06/15/21 07:25	06/16/21 17:57	1
Sodium	0.0887	E4	0.50	0.031	mg/L		06/15/21 07:25	06/16/21 17:57	1

Lab Sample ID: MB 550-245252/1-A
Matrix: Water
Analysis Batch: 245649

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245252

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	0.00737	E4	0.050	0.0025	mg/L		06/15/21 07:25	06/17/21 15:38	1
Sodium	ND	E8	0.50	0.031	mg/L		06/15/21 07:25	06/17/21 15:38	1

Lab Sample ID: LCS 550-245252/2-A
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.00		mg/L		100	85 - 115
Calcium	21.0	20.9		mg/L		100	85 - 115
Magnesium	21.0	20.7		mg/L		98	85 - 115
Potassium	20.0	19.6		mg/L		98	85 - 115
Sodium	20.0	19.6		mg/L		98	85 - 115

Lab Sample ID: LCS 550-245252/2-A
Matrix: Water
Analysis Batch: 245649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.974		mg/L		97	85 - 115
Sodium	20.0	19.7		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-245252/3-A
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.958		mg/L		96	85 - 115	4	20
Calcium	21.0	19.9		mg/L		95	85 - 115	5	20
Magnesium	21.0	19.8		mg/L		94	85 - 115	4	20
Potassium	20.0	19.2		mg/L		96	85 - 115	2	20
Sodium	20.0	19.1		mg/L		96	85 - 115	3	20

Lab Sample ID: LCSD 550-245252/3-A
Matrix: Water
Analysis Batch: 245649

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.975		mg/L		98	85 - 115	0	20
Sodium	20.0	19.6		mg/L		98	85 - 115	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-165217-E-1-B MS
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00037	E4	1.00	1.02		mg/L		102	70 - 130
Calcium	93		21.0	110	M3	mg/L		80	70 - 130
Magnesium	18		21.0	38.1		mg/L		96	70 - 130
Potassium	2.0		20.0	22.4		mg/L		102	70 - 130
Sodium	350	M3	20.0	353	M3	mg/L		15	70 - 130

Lab Sample ID: 550-165217-E-1-B MS
Matrix: Water
Analysis Batch: 245649

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.65		1.00	1.63		mg/L		97	70 - 130
Sodium	360	M3	20.0	361	M3	mg/L		6	70 - 130

Lab Sample ID: 550-165217-E-1-C MSD
Matrix: Water
Analysis Batch: 245474

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00037	E4	1.00	1.07		mg/L		107	70 - 130	4	20
Calcium	93		21.0	113	M3	mg/L		94	70 - 130	3	20
Magnesium	18		21.0	39.1		mg/L		101	70 - 130	3	20
Potassium	2.0		20.0	23.2		mg/L		106	70 - 130	4	20
Sodium	350	M3	20.0	362	M3	mg/L		59	70 - 130	2	20

Lab Sample ID: 550-165217-E-1-C MSD
Matrix: Water
Analysis Batch: 245649

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245252

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.65		1.00	1.63		mg/L		98	70 - 130	0	20
Sodium	360	M3	20.0	364	M3	mg/L		23	70 - 130	1	20

Lab Sample ID: MB 280-540498/1-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 540498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:19	1

Lab Sample ID: LCS 280-540498/2-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 280-149951-H-1-B MS
Matrix: Water
Analysis Batch: 540891
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.18		1.00	1.22		mg/L		104	70 - 130

Lab Sample ID: 280-149951-H-1-C MSD
Matrix: Water
Analysis Batch: 540891
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.18		1.00	1.21		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-245378/1-A
Matrix: Water
Analysis Batch: 245848
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000630	E4	0.0010	0.000043	mg/L		06/16/21 08:27	06/21/21 12:13	1
Arsenic	0.000424	E4	0.00050	0.00025	mg/L		06/16/21 08:27	06/21/21 12:13	1
Barium	ND	E8	0.00050	0.00026	mg/L		06/16/21 08:27	06/21/21 12:13	1
Cadmium	0.0000330	E4	0.00010	0.000023	mg/L		06/16/21 08:27	06/21/21 12:13	1
Chromium	ND	E8	0.0010	0.00043	mg/L		06/16/21 08:27	06/21/21 12:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/16/21 08:27	06/21/21 12:13	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		06/16/21 08:27	06/21/21 12:13	1
Selenium	ND	E8	0.00050	0.000074	mg/L		06/16/21 08:27	06/21/21 12:13	1

Lab Sample ID: MB 550-245378/1-A
Matrix: Water
Analysis Batch: 246435
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245378

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	E8	0.00050	0.00022	mg/L		06/16/21 08:27	06/25/21 18:18	1
Thallium	0.0000320	E4	0.00010	0.000013	mg/L		06/16/21 08:27	06/25/21 18:18	1

Lab Sample ID: LCS 550-245378/4-A
Matrix: Water
Analysis Batch: 245848
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0961		mg/L		96	85 - 115
Arsenic	0.100	0.0990		mg/L		99	85 - 115
Barium	0.100	0.109		mg/L		109	85 - 115
Cadmium	0.100	0.0999		mg/L		100	85 - 115
Chromium	0.100	0.104		mg/L		104	85 - 115
Cobalt	0.100	0.104		mg/L		104	85 - 115
Molybdenum	0.100	0.0994		mg/L		99	85 - 115
Selenium	0.100	0.0979		mg/L		98	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-245378/4-A
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	0.100	0.101		mg/L		101	85 - 115
Thallium	0.100	0.105		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-245378/5-A
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0985		mg/L		99	85 - 115	3	20
Arsenic	0.100	0.0985		mg/L		98	85 - 115	1	20
Barium	0.100	0.110		mg/L		110	85 - 115	0	20
Cadmium	0.100	0.101		mg/L		101	85 - 115	2	20
Chromium	0.100	0.104		mg/L		104	85 - 115	0	20
Cobalt	0.100	0.103		mg/L		103	85 - 115	1	20
Molybdenum	0.100	0.103		mg/L		103	85 - 115	3	20
Selenium	0.100	0.0992		mg/L		99	85 - 115	1	20

Lab Sample ID: LCSD 550-245378/5-A
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	0.100	0.101		mg/L		101	85 - 115	0	20
Thallium	0.100	0.102		mg/L		102	85 - 115	3	20

Lab Sample ID: 550-165465-B-1-A MS
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.00020	E4	0.100	0.101		mg/L		100	70 - 130
Arsenic	0.0068		0.100	0.107		mg/L		100	70 - 130
Barium	0.11		0.100	0.228		mg/L		113	70 - 130
Cadmium	0.00030		0.100	0.0984		mg/L		98	70 - 130
Chromium	ND	E8	0.100	0.103		mg/L		103	70 - 130
Cobalt	0.000092	E4	0.100	0.102		mg/L		101	70 - 130
Molybdenum	0.011		0.100	0.116		mg/L		105	70 - 130
Selenium	ND	E8	0.100	0.0995		mg/L		99	70 - 130

Lab Sample ID: 550-165465-B-1-A MS
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND	E8	0.100	0.0969		mg/L		97	70 - 130
Thallium	0.00017		0.100	0.0971		mg/L		97	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-165465-B-1-B MSD
Matrix: Water
Analysis Batch: 245848

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.00020	E4	0.100	0.0985		mg/L		98	70 - 130	2	20
Arsenic	0.0068		0.100	0.106		mg/L		99	70 - 130	1	20
Barium	0.11		0.100	0.227		mg/L		112	70 - 130	0	20
Cadmium	0.00030		0.100	0.0980		mg/L		98	70 - 130	0	20
Chromium	ND	E8	0.100	0.102		mg/L		102	70 - 130	1	20
Cobalt	0.000092	E4	0.100	0.100		mg/L		100	70 - 130	1	20
Molybdenum	0.011		0.100	0.115		mg/L		104	70 - 130	1	20
Selenium	ND	E8	0.100	0.0993		mg/L		99	70 - 130	0	20

Lab Sample ID: 550-165465-B-1-B MSD
Matrix: Water
Analysis Batch: 246435

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245378

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND	E8	0.100	0.0989		mg/L		99	70 - 130	2	20
Thallium	0.00017		0.100	0.0970		mg/L		97	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-245770/32
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1

Lab Sample ID: LCS 550-245770/31
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-245770/44
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110	0	20

Lab Sample ID: 550-165361-B-1 DU
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	250		249		mg/L		0.1	20

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: 550-165361-B-1 DU
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Bicarbonate Alkalinity as CaCO3	250		249		mg/L		0.1	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-245391/1
Matrix: Water
Analysis Batch: 245391

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			06/16/21 10:20	1

Lab Sample ID: LCS 550-245391/2
Matrix: Water
Analysis Batch: 245391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-245391/3
Matrix: Water
Analysis Batch: 245391

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	996		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-165344-M-11 DU
Matrix: Water
Analysis Batch: 245391

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	2300		2230		mg/L		2	10

HPLC/IC

Analysis Batch: 246378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	300.0	
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	300.0	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	300.0	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	300.0	
MB 550-246378/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-246378/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246378/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-166000-A-1 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-166000-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 245252

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7	
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 245378

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8	
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 245474

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245252
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245252
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245252
MB 550-245252/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245252
LCS 550-245252/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245252
LCSD 550-245252/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245252
550-165217-E-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245252

Metals (Continued)

Analysis Batch: 245649 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165217-E-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245777

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245252

Analysis Batch: 245848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8 LL	245378
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8 LL	245378
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8 LL	245378
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245378
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245378
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245378
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245378

Analysis Batch: 246435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.8 LL	245378
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.8 LL	245378
MB 550-245378/1-A	Method Blank	Total/NA	Water	200.8 LL	245378
LCS 550-245378/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245378
LCSD 550-245378/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245378
550-165465-B-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245378
550-165465-B-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245378

Prep Batch: 540498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7	
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 540891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	200.7 Rev 4.4	540498
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	200.7 Rev 4.4	540498
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	540498
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	540498

General Chemistry

Analysis Batch: 245391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	SM 2540C	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	SM 2540C	
MB 550-245391/1	Method Blank	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 245391 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-245391/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-245391/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-165344-M-11 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 245770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165381-1	CH-DEV-W126R-0621	Total/NA	Water	SM 2320B	
550-165381-2	CH-DEV-W123R-0621	Total/NA	Water	SM 2320B	
MB 550-245770/32	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-245770/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-245770/44	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-165361-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Client Sample ID: CH-DEV-W126R-0621

Lab Sample ID: 550-165381-1
Matrix: Water

Date Collected: 06/04/21 12:50
Date Received: 06/14/21 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246378	06/26/21 08:28	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246378	06/26/21 08:55	JRP	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245474	06/16/21 19:27	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245649	06/17/21 18:14	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	245777	06/18/21 16:04	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 18:45	LMT	TAL DEN
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	245848	06/21/21 13:10	ARE	TAL PHX
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	246435	06/25/21 18:51	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 16:47	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245391		YET	TAL PHX
					(Start)	06/16/21 10:20		
					(End)	06/17/21 09:55		

Client Sample ID: CH-DEV-W123R-0621

Lab Sample ID: 550-165381-2
Matrix: Water

Date Collected: 06/05/21 09:55
Date Received: 06/14/21 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246378	06/26/21 09:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246378	06/26/21 09:50	JRP	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245474	06/16/21 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	245649	06/17/21 18:11	MGM	TAL PHX
Total/NA	Prep	200.7			245252	06/15/21 07:25	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	245649	06/17/21 18:18	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:02	LMT	TAL DEN
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	245848	06/21/21 13:12	ARE	TAL PHX
Total/NA	Prep	200.8			245378	06/16/21 08:27	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	246435	06/25/21 18:54	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 16:55	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245391		YET	TAL PHX
					(Start)	06/16/21 10:20		
					(End)	06/17/21 09:55		

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: APS FAP (Cholla)

Job ID: 550-165381-1

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Chain of Custody Record

534824 eurofins Environment Testing TestAmerica

Address:

Natalie Chrisman

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

165381

TAL-8210

Client Contact		Project Manager: Aaron Hunt	Site Contact:	Date:	COC No:
Company Name: APS		Tel/Email: (602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
Address: 4801 Cholla Lake Rd		Analysis Turnaround Time			Sampler:
City/State/Zip: Joseph City, AZ 86032		☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (928) 587-0319		TAT if different from Below ____			Walk-in Client:
Fax:		☐ 2 weeks			Lab Sampling:
Project Name:		☐ 1 week			
Site: APS FAP (Cholla)		☐ 2 days			Job / SDG No.:
P O #		☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	200.7, 200.8	300.0, SM2540C, SM2320B		Sample Specific Notes:
CH-DEV-W126R-0621	06/04/21	12:50	G	W	2	N	N	X	X	-01	development sample
CH-DEV-W123R-0621	06/05/21	09:55	"	"	2	N	N	X	X	-02	" "

550-165381 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____	Therm ID No.: ____	
Relinquished by: Isaac Torres	Company: Wood	Date/Time: 06/14/21 13:40	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole Daniel	Company: ETA PHX	Date/Time: 6/14/21 1340

2.8°C ICE COO

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31142.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-165381-1
Address: 4955 Yarrow Street,	Due Date Requested: 7/18/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: APS FAP Choola	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-DEV-W126R-0621 (550-165381-1)	6/4/21	12:50 Arizona		Water			X	1	AZ Sample
CH-DEV-W123R-0621 (550-165381-2)	6/5/21	09:55 Arizona		Water			X	1	AZ Sample

550-165381 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Grace 06-15-21	Date/Time: 15:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: FedEx	Date/Time:	Company:	Received by: JCN	Date/Time: 6/16/21 0930	Company: ETA DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: ✓ Yes Δ No	Custody Seal No.: 1337904		Cooler Temperature(s) °C and Other Remarks: 1.1 CF0.4 IR12		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company — Job Number: 550-165381-1

Login Number: 165381 — **List Source: Eurofins TestAmerica, Phoenix**
List Number: 1
Creator: Gravlin, Andrea

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	No analysis requiring residual chlorine check assigned.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165381-1

Login Number: 165381
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver
List Creation: 06/16/21 04:11 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-165540-1
Laboratory Sample Delivery Group: APS Power plant
Client Project/Site: Replacement Well Initial Low Flow

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/29/2021 4:57:23 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Job ID: 550-165540-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-165540-1

Comments
No additional comments.

Receipt
The samples were received on 6/16/2021 12:50 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.9º C.

HPLC/IC
Method 300.0: The following sample was diluted for FLuoride due to the nature of the sample matrix: (550-165264-J-17 ^50). An elevated reporting limit (RL) has been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-165540-1	CH-ABREP-W123R-0621	Water	06/15/21 11:06	06/16/21 12:50	
550-165540-2	CH-ABREP-W126R-0621	Water	06/15/21 09:12	06/16/21 12:50	

Detection Summary

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Client Sample ID: CH-ABREP-W123R-0621

Lab Sample ID: 550-165540-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Boron	36		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.064	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	280		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	34		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0048		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0037		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.24		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	48		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	48		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: CH-ABREP-W126R-0621

Lab Sample ID: 550-165540-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	3.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Boron	42		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.66		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	420		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	47		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0024		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0045		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.26		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	84		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	84		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-ABREP-W123R-0621

Lab Sample ID: 550-165540-1
Date Collected: 06/15/21 11:06
Matrix: Water
Date Received: 06/16/21 12:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5300	D2	400	100	mg/L			06/25/21 00:06	200
Fluoride	4.1	D1	0.80	0.095	mg/L			06/23/21 19:46	2
Sulfate	3500	D2	400	85	mg/L			06/23/21 20:04	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	36		0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:39	1
Lithium	0.52		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:19	1
Calcium	750		2.0	0.013	mg/L		06/21/21 08:31	06/22/21 17:11	1
Iron	0.064	E4	0.10	0.010	mg/L		06/21/21 08:31	06/22/21 17:11	1
Magnesium	280		2.0	0.044	mg/L		06/21/21 08:31	06/22/21 17:11	1
Potassium	34		0.50	0.17	mg/L		06/21/21 08:31	06/22/21 17:11	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0048		0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 15:20	1
Cobalt	0.0037		0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 15:20	1
Molybdenum	0.24		0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:31	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	48		6.0	6.0	mg/L			06/20/21 19:20	1
Bicarbonate Alkalinity as CaCO3	48		6.0	6.0	mg/L			06/20/21 19:20	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:20	1
Total Dissolved Solids	12000	D2	200	200	mg/L			06/17/21 08:42	1

Client Sample ID: CH-ABREP-W126R-0621

Lab Sample ID: 550-165540-2
Date Collected: 06/15/21 09:12
Matrix: Water
Date Received: 06/16/21 12:50

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6400	D2	400	100	mg/L			06/25/21 00:33	200
Fluoride	3.6	D1	0.80	0.095	mg/L			06/23/21 20:22	2
Sulfate	3800	D2	400	85	mg/L			06/23/21 20:41	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	42		0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:43	1
Lithium	0.66		0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 19:22	1
Calcium	760		2.0	0.013	mg/L		06/21/21 08:31	06/22/21 17:15	1
Iron	0.17		0.10	0.010	mg/L		06/21/21 08:31	06/22/21 17:15	1
Magnesium	420		2.0	0.044	mg/L		06/21/21 08:31	06/22/21 17:15	1
Potassium	47		0.50	0.17	mg/L		06/21/21 08:31	06/22/21 17:15	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0024		0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 15:26	1
Cobalt	0.0045		0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 15:26	1

Client Sample ID: CH-ABREP-W126R-0621 | **Lab Sample ID: 550-165540-2**
Date Collected: 06/15/21 09:12 | **Matrix: Water**
Date Received: 06/16/21 12:50

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	**0.26**		0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:37	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**84**		6.0	6.0	mg/L			06/20/21 19:28	1
Bicarbonate Alkalinity as CaCO3	**84**		6.0	6.0	mg/L			06/20/21 19:28	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 19:28	1
Total Dissolved Solids	**14000**	**D2**	200	200	mg/L			06/17/21 08:42	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246180/2
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			06/23/21 14:33	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/23/21 14:33	1

Lab Sample ID: LCS 550-246180/5
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride			4.00	4.11		mg/L		103	90 - 110		
Sulfate			20.0	21.1		mg/L		105	90 - 110		

Lab Sample ID: LCSD 550-246180/6
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.11		mg/L		103	90 - 110	0	20
Sulfate			20.0	20.2		mg/L		101	90 - 110	4	20

Lab Sample ID: 550-165264-G-17 MS ^50
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Fluoride	ND	E8 D1 D5	200	211	D1	mg/L		106	80 - 120		
Sulfate	1500	M2 D2	1000	2250	D2 M2	mg/L		73	80 - 120		

Lab Sample ID: 550-165264-G-17 MSD ^50
Matrix: Water
Analysis Batch: 246180

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	E8 D1 D5	200	210	D1	mg/L		105	80 - 120	1	20
Sulfate	1500	M2 D2	1000	2200	D2 M2	mg/L		68	80 - 120	2	20

Lab Sample ID: MB 550-246317/2
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			06/24/21 10:51	1
Fluoride	ND	E8	0.40	0.047	mg/L			06/24/21 10:51	1
Sulfate	ND	E8	2.0	0.43	mg/L			06/24/21 10:51	1

Lab Sample ID: LCS 550-246317/5
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	19.8		mg/L		99	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-246317/5
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	3.95		mg/L		99	90 - 110
Sulfate	20.0	18.8		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-246317/6
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	19.7		mg/L		99	90 - 110	0	20
Fluoride	4.00	3.94		mg/L		99	90 - 110	0	20
Sulfate	20.0	18.9		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-165908-E-4 MS
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	57		20.0	76.2		mg/L		94	80 - 120
Fluoride	0.34	E4	4.00	4.34		mg/L		100	80 - 120
Sulfate	170	M3	20.0	181	M3	mg/L		61	80 - 120

Lab Sample ID: 550-165908-E-4 MSD
Matrix: Water
Analysis Batch: 246317

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	57		20.0	76.7		mg/L		96	80 - 120	1	20
Fluoride	0.34	E4	4.00	4.42		mg/L		102	80 - 120	2	20
Sulfate	170	M3	20.0	181	M3	mg/L		63	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-245806/1-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		06/21/21 08:31	06/22/21 16:45	1
Iron	ND	E8	0.10	0.010	mg/L		06/21/21 08:31	06/22/21 16:45	1
Magnesium	ND	E8	2.0	0.044	mg/L		06/21/21 08:31	06/22/21 16:45	1
Potassium	ND	E8	0.50	0.17	mg/L		06/21/21 08:31	06/22/21 16:45	1

Lab Sample ID: MB 550-245806/1-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245806

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		06/21/21 08:31	06/23/21 15:06	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-245806/2-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	21.4		mg/L		102	85 - 115
Iron	1.00	1.02		mg/L		102	85 - 115
Magnesium	21.0	21.5		mg/L		103	85 - 115
Potassium	20.0	20.4		mg/L		102	85 - 115

Lab Sample ID: LCS 550-245806/2-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.970		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-245806/3-A
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	21.3		mg/L		102	85 - 115	0	20
Iron	1.00	1.01		mg/L		101	85 - 115	0	20
Magnesium	21.0	21.4		mg/L		102	85 - 115	1	20
Potassium	20.0	20.3		mg/L		102	85 - 115	1	20

Lab Sample ID: LCSD 550-245806/3-A
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	0.953		mg/L		95	85 - 115	2	20

Lab Sample ID: 550-165516-G-1-B MS
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	380	M3	21.0	385	M3	mg/L		26	70 - 130
Iron	3.2		1.00	4.12		mg/L		89	70 - 130
Magnesium	66		21.0	83.9		mg/L		85	70 - 130
Potassium	13		20.0	33.9		mg/L		103	70 - 130

Lab Sample ID: 550-165516-G-1-B MS
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.084		1.00	1.07		mg/L		98	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-165516-G-1-C MSD
Matrix: Water
Analysis Batch: 246025

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	380	M3	21.0	402	M3	mg/L		107	70 - 130	4	20
Iron	3.2		1.00	4.27		mg/L		103	70 - 130	3	20
Magnesium	66		21.0	88.3		mg/L		106	70 - 130	5	20
Potassium	13		20.0	34.3		mg/L		105	70 - 130	1	20

Lab Sample ID: 550-165516-G-1-C MSD
Matrix: Water
Analysis Batch: 246124

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245806

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.084		1.00	1.09		mg/L		100	70 - 130	2	20

Lab Sample ID: MB 280-540498/1-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 540498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		06/21/21 09:20	06/22/21 18:19	1

Lab Sample ID: LCS 280-540498/2-A
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Lab Sample ID: 280-149951-H-1-B MS
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.18		1.00	1.22		mg/L		104	70 - 130

Lab Sample ID: 280-149951-H-1-C MSD
Matrix: Water
Analysis Batch: 540891

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 540498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.18		1.00	1.21		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-245767/1-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND	E8	0.00050	0.00020	mg/L		06/21/21 05:19	06/25/21 19:02	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-245767/1-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 245767

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		06/21/21 05:19	06/29/21 14:47	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		06/21/21 05:19	06/29/21 14:47	1

Lab Sample ID: LCS 550-245767/4-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.100	0.0965		mg/L		97	85 - 115

Lab Sample ID: LCS 550-245767/4-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.100		mg/L		100	85 - 115
Cobalt	0.100	0.102		mg/L		102	85 - 115

Lab Sample ID: LCSD 550-245767/5-A
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.100	0.103		mg/L		103	85 - 115	7	20

Lab Sample ID: LCSD 550-245767/5-A
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.102		mg/L		102	85 - 115	2	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	3	20

Lab Sample ID: 550-165710-M-1-A MS
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.00056		0.100	0.104		mg/L		103	70 - 130

Lab Sample ID: 550-165710-M-1-A MS
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0019		0.100	0.107		mg/L		105	70 - 130
Cobalt	0.00022	E4	0.100	0.0977		mg/L		97	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-165710-M-1-B MSD
Matrix: Water
Analysis Batch: 246436

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.00056		0.100	0.102		mg/L		101	70 - 130	2	20

Lab Sample ID: 550-165710-M-1-B MSD
Matrix: Water
Analysis Batch: 246637

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 245767

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0019		0.100	0.108		mg/L		106	70 - 130	1	20
Cobalt	0.00022	E4	0.100	0.0978		mg/L		98	70 - 130	0	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-245770/32
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			06/20/21 15:50	1

Lab Sample ID: LCS 550-245770/31
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-245770/44
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110	0	20

Lab Sample ID: 590-15273-B-1 DU
Matrix: Water
Analysis Batch: 245770

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	68		68.3		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	68		68.3		mg/L		0.2	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Client: Arizona Public Service Company
Project/Site: Replacement Well Initial Low Flow

Job ID: 550-165540-1
SDG: APS Power plant

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-245507/1
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			06/17/21 08:42	1

Lab Sample ID: LCS 550-245507/2
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	902		mg/L		90	90 - 110

Lab Sample ID: LCSD 550-245507/3
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	936		mg/L		94	90 - 110	4	10

Lab Sample ID: 550-165539-A-2 DU
Matrix: Water
Analysis Batch: 245507

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	8100	D2	7680	D2	mg/L		5	10

HPLC/IC

Analysis Batch: 246180

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
MB 550-246180/2	Method Blank	Total/NA	Water	300.0	
LCS 550-246180/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246180/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-165264-G-17 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-165264-G-17 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 246317

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	300.0	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	300.0	
MB 550-246317/2	Method Blank	Total/NA	Water	300.0	
LCS 550-246317/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246317/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-165908-E-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-165908-E-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 245767

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8	
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 245806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7	
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7	
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 246025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245806
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245806
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245806
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245806
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245806

1 2 3 4 5 6 7 8 9 10 11 12 13 14

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals

Analysis Batch: 246124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	245806
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	245806
MB 550-245806/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	245806
LCS 550-245806/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	245806
LCSD 550-245806/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	245806
550-165516-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	245806

Analysis Batch: 246436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8 LL	245767
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8 LL	245767
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8 LL	245767
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245767
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245767
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245767
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245767

Analysis Batch: 246637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.8 LL	245767
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.8 LL	245767
MB 550-245767/1-A	Method Blank	Total/NA	Water	200.8 LL	245767
LCS 550-245767/4-A	Lab Control Sample	Total/NA	Water	200.8 LL	245767
LCSD 550-245767/5-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	245767
550-165710-M-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	245767
550-165710-M-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	245767

Prep Batch: 540498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7	
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 540891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	200.7 Rev 4.4	540498
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	200.7 Rev 4.4	540498
MB 280-540498/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	540498
LCS 280-540498/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	540498
280-149951-H-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	540498

General Chemistry

Analysis Batch: 245507

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 245507 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	SM 2540C	
MB 550-245507/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-245507/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-245507/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-165539-A-2 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 245770

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-165540-1	CH-ABREP-W123R-0621	Total/NA	Water	SM 2320B	
550-165540-2	CH-ABREP-W126R-0621	Total/NA	Water	SM 2320B	
MB 550-245770/32	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-245770/31	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-245770/44	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
590-15273-B-1 DU	Duplicate	Total/NA	Water	SM 2320B	

Client Sample ID: CH-ABREP-W123R-0621

Lab Sample ID: 550-165540-1

Date Collected: 06/15/21 11:06
Date Received: 06/16/21 12:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246180	06/23/21 19:46	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246180	06/23/21 20:04	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246317	06/25/21 00:06	JNW	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246025	06/22/21 17:11	MGM	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246124	06/23/21 15:39	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:19	LMT	TAL DEN
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246436	06/25/21 19:31	ARE	TAL PHX
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246637	06/29/21 15:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 19:20	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245507		YET	TAL PHX
					(Start)	06/17/21 08:42		
					(End)	06/18/21 23:44		

Client Sample ID: CH-ABREP-W126R-0621

Lab Sample ID: 550-165540-2

Date Collected: 06/15/21 09:12
Date Received: 06/16/21 12:50

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246180	06/23/21 20:22	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246180	06/23/21 20:41	JRP	TAL PHX
Total/NA	Analysis	300.0		200	246317	06/25/21 00:33	JNW	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246025	06/22/21 17:15	MGM	TAL PHX
Total/NA	Prep	200.7			245806	06/21/21 08:31	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	246124	06/23/21 15:43	MGM	TAL PHX
Total/NA	Prep	200.7			540498	06/21/21 09:20	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	540891	06/22/21 19:22	LMT	TAL DEN
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246436	06/25/21 19:37	ARE	TAL PHX
Total/NA	Prep	200.8			245767	06/21/21 05:19	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	246637	06/29/21 15:26	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	245770	06/20/21 19:28	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	245507		YET	TAL PHX
					(Start)	06/17/21 08:42		
					(End)	06/18/21 23:44		

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-165540-1

Project/Site: Replacement Well Initial Low Flow — SDG: APS Power plant

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	11-30-22
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

1 2 3 4 5 6 7 8 9 10 11 12 13 14

6/29/2021

Chain of Custody Record

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

165540

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other: **FAP Replacement Wells**

TestAmerica Laboratories, Inc.

Client Contact	**Natalie Chrisman**		**Date:**	COC No:
Arizona Public Service	**(602) 316-1324**	**Lab Contact: Ken Baker**	**Carrier:**	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☐ 2 weeks			Lab Sampling:
Project Name: Replacement Well Initial Low Flow	☐ 1 week			
Site: APS Cholla Power Plant	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	**Sample Date**	**Sample Time**	**Sample Type** (C=Comp, G=Grab)	**Matrix**	**# of Cont.**	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	SM 2320B HCO3 (Alkalinity as CaCO3)	SM 2540C (TDS)	EPA 200.7 (B, Ca, Li, Fe, Mg, K) (Totals)	EPA 200.8 (As, Co, Mo) (Totals)	Sample Specific Notes:
CH-ABREP-W123R-0621	6/15/2021	11:06	G	W	2	N	N	X	X	X	X	X	-01 Low Flow
CH-ABREP-W126R-0621	6/15/2021	9:12	G	W	2	N	N	X	X	X	X	X	-02 "
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	1	1	4	4	

550-165540 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐Return to Client ☑Disposal by Lab ☐Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Perform Method 200.8 with collision cell

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____		
Relinquished by: [signature]	Company: Wood	Date/Time: 6/16/21/12:50	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole [illegible]	Company: ETA PHX	Date/Time: 6/16/21 1210

1.9°C ICE

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31159.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-165540-1
Address: 4955 Yarrow Street,	Due Date Requested: 6/29/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: Replacement Well Initial Low Flow	Project #: 55009706			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium-ICP	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-ABREP-W123R-0621 (550-165540-1)	6/15/21	11:06 Arizona		Water			X	1	AZ Sample
CH-ABREP-W126R-0621 (550-165540-2)	6/15/21	09:12 Arizona		Water			X	1	AZ Sample

550-165540 Chain of Custody

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by: Date: Time: Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
Relinquished by: [signature]	Date/Time: 06-16-21 15:00	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by: FedEx	Date/Time:	Company:	Received by: [signature]	Date/Time: 6/17/21 0955	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: X Yes Δ No Custody Seal No.: 1337921
Cooler Temperature(s) °C and Other Remarks: 4.6 CF -0.4 IR12

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165540-1
SDG Number: APS Power plant

Login Number: 165540
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-165540-1
SDG Number: APS Power plant

Login Number: 165540
List Number: 2
Creator: Roehsner, Karen P

List Source: Eurofins TestAmerica, Denver
List Creation: 06/17/21 02:16 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-166242-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: Cholla Replacement Well Aquifer Test

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
7/14/2021 6:15:04 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

LINKS
Review your project results through Total Access
Have a Question? Ask The Expert
Visit us at: www.eurofinsus.com/Env

1 2 3 4 5 6 7 8 9 10 11 12 13 14

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Job ID: 550-166242-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-166242-1

Comments
No additional comments.

Receipt
The samples were received on 6/30/2021 1:30 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.8º C.

Receipt Exceptions
The Chain-of-Custody (COC) was incomplete as received and/or improperly completed.

COC does not list 200.7 metals needed.
Logged in 200.7 method, metals will need to be adjusted.

HPLC/IC
No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-166242-1	CH-CRT-GSX1R-0621	Water	06/28/21 17:43	06/30/21 13:30	
550-166242-2	CH-CRT2-GSX1R-0621	Water	06/29/21 04:36	06/30/21 13:30	
550-166242-3	CH-CRT3-GSX1R-0621	Water	06/29/21 07:37	06/30/21 13:30	

Detection Summary

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CRT-GSX1R-0621

Lab Sample ID: 550-166242-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	16	M3	0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CRT2-GSX1R-0621

Lab Sample ID: 550-166242-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

Client Sample ID: CH-CRT3-GSX1R-0621

Lab Sample ID: 550-166242-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Boron	15		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CRT-GSX1R-0621

Lab Sample ID: 550-166242-1

Date Collected: 06/28/21 17:43
Date Received: 06/30/21 13:30
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 21:33	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	16	M3	0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:03	1

Client Sample ID: CH-CRT2-GSX1R-0621

Lab Sample ID: 550-166242-2

Date Collected: 06/29/21 04:36
Date Received: 06/30/21 13:30
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 21:51	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:07	1

Client Sample ID: CH-CRT3-GSX1R-0621

Lab Sample ID: 550-166242-3

Date Collected: 06/29/21 07:37
Date Received: 06/30/21 13:30
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	2.5	D1	0.80	0.095	mg/L			07/01/21 22:10	2

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	15		0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 22:11	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-246953/1030
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 246953

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			07/01/21 19:42	1

Lab Sample ID: LCS 550-246953/31
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 246953

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.14		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-246953/32
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 246953

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.19		mg/L		105	90 - 110	1	20

Lab Sample ID: 550-166130-X-1 MS
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 246953

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.61		4.00	4.57		mg/L		99	80 - 120

Lab Sample ID: 550-166130-X-1 MSD
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 246953

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.61		4.00	4.51		mg/L		97	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-247147/1-A
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 247366
Prep Batch: 247147

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		07/07/21 09:08	07/08/21 21:44	1

Lab Sample ID: LCS 550-247147/2-A
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 247366
Prep Batch: 247147

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.00		mg/L		100	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-247147/3-A
Matrix: Water
Analysis Batch: 247366

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 247147

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	0.994		mg/L		99	85 - 115	1	20

Lab Sample ID: 550-166242-1 MS
Matrix: Water
Analysis Batch: 247366

Client Sample ID: CH-CRT-GSX1R-0621
Prep Type: Total/NA
Prep Batch: 247147

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	16	M3	1.00	16.1	M3	mg/L		58	70 - 130

Lab Sample ID: 550-166242-1 MSD
Matrix: Water
Analysis Batch: 247366

Client Sample ID: CH-CRT-GSX1R-0621
Prep Type: Total/NA
Prep Batch: 247147

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	16	M3	1.00	16.3	M3	mg/L		75	70 - 130	1	20

QC Association Summary

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

HPLC/IC

Analysis Batch: 246953

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	300.0	
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	300.0	
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	300.0	
MB 550-246953/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-246953/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-246953/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-166130-X-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-166130-X-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 247147

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	200.7	
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	200.7	
MB 550-247147/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-247147/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-247147/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-166242-1 MS	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	
550-166242-1 MSD	CH-CRT-GSX1R-0621	Total/NA	Water	200.7	

Analysis Batch: 247366

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-166242-1	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-2	CH-CRT2-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-3	CH-CRT3-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
MB 550-247147/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	247147
LCS 550-247147/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	247147
LCSD 550-247147/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-1 MS	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147
550-166242-1 MSD	CH-CRT-GSX1R-0621	Total/NA	Water	200.7 Rev 4.4	247147

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: Cholla Replacement Well Aquifer Test

Job ID: 550-166242-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CRT-GSX1R-0621

Lab Sample ID: 550-166242-1

Date Collected: 06/28/21 17:43
Date Received: 06/30/21 13:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 21:33	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:03	MGM	TAL PHX

Client Sample ID: CH-CRT2-GSX1R-0621

Lab Sample ID: 550-166242-2

Date Collected: 06/29/21 04:36
Date Received: 06/30/21 13:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 21:51	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:07	MGM	TAL PHX

Client Sample ID: CH-CRT3-GSX1R-0621

Lab Sample ID: 550-166242-3

Date Collected: 06/29/21 07:37
Date Received: 06/30/21 13:30
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	246953	07/01/21 22:10	JRP	TAL PHX
Total/NA	Prep	200.7			247147	07/07/21 09:08	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	247366	07/08/21 22:11	MGM	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Laboratory: Eurofins TestAmerica, Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Chain of Custody Record

536486 eurofins | Environment Testing TestAmerica

166242

Address:

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

TAL-8210

Client Contact	Project Manager: Natalie Chrisman	Site Contact:	Date:	COC No:
Company Name: Arizona Public Services	Tel/Email: (602) 316-1324	Lab Contact:	Carrier:	___ of ___ COCs
Address: 4401 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
City/State/Zip: Joseph City, AZ 86032	☐ CALENDAR DAYS ☐ WORKING DAYS			For Lab Use Only:
Phone: (928) 587-0316	TAT if different from Below ___			Walk-in Client:
Fax:	☐ 2 weeks			Lab Sampling:
Project Name: Cholla Replacement Well Aquifer Test	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
P O # 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (F)	EPA 200.7 (B) Totals		Sample Specific Notes:
CH-CRT-GSX1R-0621	06/28/21	11:43	G	W	2			X	X	-01	CRT (Constant Rate Test); 1st Sample
CH-CRT2-GSX1R-0621	06/29/21	04:36	"	"	2			X	X	-02	CRT; 2nd Sample
CH-CRT3-GSX1R-0621	06/29/21	07:37	"	"	2			X	X	-03	CRT; End Sample
			"	"							

550-166242 Chain of Custody

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☐ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ | Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Isaac R Torres	Wood	06/30/21 13:33			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: Nicole [illegible]	Company: Em PHX	Date/Time: 6/30/21 1330

2.8°C ICE COO

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-166242-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 166242
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	False	Refer to Job Narrative for details.
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-168312-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: CCR Replacement Well Sampling

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
8/28/2021 7:41:48 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

Metals

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-168312-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-168312-1

Comments
No additional comments.

Receipt
The samples were received on 8/4/2021 10:54 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.4º C.

HPLC/IC
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-GSX1R-0821 (550-168312-5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: An incorrect volume of spiking solution was inadvertently added to the continuing calibration verification (CCV) samples associated with 550-251294 for Total Organic Carbon (TOC). Percent recoveries were based on the amount spiked and fell within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-168312-1	CH-CCR-W123R-0821	Water	08/03/21 12:42	08/04/21 10:54
550-168312-2	CH-CCR-W123R-0821	Water	08/03/21 12:42	08/04/21 10:54
550-168312-3	CH-CCR-W126R-0821	Water	08/03/21 10:02	08/04/21 10:54
550-168312-4	CH-CCR-W126R-0821	Water	08/03/21 10:02	08/04/21 10:54
550-168312-5	CH-CCR-GSX1R-0821	Water	08/03/21 11:45	08/04/21 10:54

Client Sample ID: CH-CCR-W123R-0821 — Lab Sample ID: 550-168312-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.2	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	39		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.4		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00017	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0058		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000077	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0010		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0036		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.24		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0010		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00022		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	1.3		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	9.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W123R-0821 — Lab Sample ID: 550-168312-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.042	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0061		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0034		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W126R-0821 — Lab Sample ID: 550-168312-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	4.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	4000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.66		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	44		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.26		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.51		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00025	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0037		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000064	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.024		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.31		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W126R-0821 (Continued) — Lab Sample ID: 550-168312-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Thallium	0.000083	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.43		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	14000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-0821 — Lab Sample ID: 550-168312-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.14		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.53		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0039		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-GSX1R-0821 — Lab Sample ID: 550-168312-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.8	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.52		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	7.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	750		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	240		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.67		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	18		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	3100	D2	2.5	0.15	mg/L	5		200.7 Rev 4.4	Total/NA
Antimony	0.00016	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0057		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00011		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00060	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0020		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.61		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0015		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	75		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	9700	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.8	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-0821

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168312-1
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**5400**	**D2**	400	100	mg/L			08/09/21 22:24	200
Fluoride	**5.2**	**D1**	0.80	0.095	mg/L			08/09/21 22:06	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 20:36	5
Sulfate	**3500**	**D2**	400	85	mg/L			08/09/21 22:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:02	1
Lithium	**0.52**		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:39	1
Boron	**39**		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:31	1
Calcium	**730**		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:51	1
Iron	**0.040**	**E4**	0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:02	1
Manganese	**2.4**		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:02	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.00017**	**E4**	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:22	1
Arsenic	**0.0058**		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:22	1
Barium	**0.012**		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:22	1
Cadmium	**0.000077**	**E4**	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:22	1
Chromium	**0.0010**		0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:22	1
Cobalt	**0.0036**		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:22	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:22	1
Molybdenum	**0.24**		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:22	1
Selenium	**0.0010**		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:22	1
Thallium	**0.00022**		0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:22	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**1.3**		0.050	0.039	mg/L			08/09/21 12:11	1
Total Dissolved Solids	**12000**	**D2**	200	200	mg/L			08/05/21 08:58	1
pH	**7.8**	**H5**	1.7	1.7	SU			08/05/21 18:50	1
Temperature	**9.7**	**H5**	0.1	0.1	Degrees C			08/05/21 18:50	1

Client Sample ID: CH-CCR-W123R-0821

Date Collected: 08/03/21 12:42
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168312-2
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.042**	**E4**	0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:33	1
Manganese	**2.6**		0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:33	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0061**		0.00050	0.00025	mg/L		08/06/21 09:06	08/20/21 20:52	1
Cobalt	**0.0034**		0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 23:06	1

Client Sample ID: CH-CCR-W123R-0821
Lab Sample ID: 550-168312-2
Date Collected: 08/03/21 12:42
Matrix: Water
Date Received: 08/04/21 10:54

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L			08/26/21 23:02	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			08/26/21 23:02	1
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L			08/26/21 23:02	1

Client Sample ID: CH-CCR-W126R-0821
Lab Sample ID: 550-168312-3
Date Collected: 08/03/21 10:02
Matrix: Water
Date Received: 08/04/21 10:54

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	400	100	mg/L			08/09/21 21:47	200
Fluoride	4.6	D1	0.80	0.095	mg/L			08/09/21 21:29	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 21:04	5
Sulfate	4000	D2	400	85	mg/L			08/09/21 21:47	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:04	1
Lithium	0.66		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:43	1
Boron	44		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:33	1
Calcium	730		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:53	1
Iron	0.26		0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:04	1
Manganese	0.51		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:04	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00025	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:24	1
Arsenic	0.0037		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:24	1
Barium	0.011		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:24	1
Cadmium	0.000064	E4	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:24	1
Chromium	0.024		0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:24	1
Cobalt	0.0042		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:24	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:24	1
Molybdenum	0.31		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:24	1
Selenium	0.0015		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:24	1
Thallium	0.000083	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:24	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.43		0.050	0.039	mg/L			08/09/21 12:42	1
Total Dissolved Solids	14000	D2	200	200	mg/L			08/05/21 08:58	1
pH	7.6	H5	1.7	1.7	SU			08/05/21 18:50	1
Temperature	8.2	H5	0.1	0.1	Degrees C			08/05/21 18:50	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-4
Date Collected: 08/03/21 10:02
Matrix: Water
Date Received: 08/04/21 10:54

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.14		0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:35	1
Manganese	0.53		0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:35	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0039		0.00050	0.00025	mg/L		08/06/21 09:06	08/23/21 20:49	1
Cobalt	0.0042		0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 23:08	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L			08/26/21 23:13	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			08/26/21 23:13	1
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L			08/26/21 23:13	1

Client Sample ID: CH-CCR-GSX1R-0821

Lab Sample ID: 550-168312-5
Date Collected: 08/03/21 11:45
Matrix: Water
Date Received: 08/04/21 10:54

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400	D2	400	100	mg/L			08/10/21 06:22	200
Fluoride	2.8	D1	0.80	0.095	mg/L			08/10/21 06:04	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			08/06/21 21:32	5
Sulfate	3000	D2	400	85	mg/L			08/10/21 06:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/10/21 18:06	1
Lithium	0.52		0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 01:46	1
Boron	7.5		0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:38	1
Calcium	750		2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:56	1
Iron	0.058	E4	0.10	0.010	mg/L		08/06/21 05:58	08/10/21 18:06	1
Magnesium	240		2.0	0.044	mg/L		08/06/21 05:58	08/11/21 19:56	1
Manganese	0.67		0.010	0.00019	mg/L		08/06/21 05:58	08/10/21 18:06	1
Potassium	18		0.50	0.17	mg/L		08/06/21 05:58	08/11/21 19:56	1
Sodium	3100	D2	2.5	0.15	mg/L		08/06/21 05:58	08/13/21 13:47	5

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00016	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:26	1
Arsenic	0.0057		0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:26	1
Barium	0.012		0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:26	1
Cadmium	0.00011		0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:26	1
Chromium	0.00060	E4	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:26	1
Cobalt	0.0020		0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:26	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:26	1
Molybdenum	0.61		0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:26	1
Selenium	0.0015		0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:26	1
Thallium	ND	E8	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:26	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-0821

Lab Sample ID: 550-168312-5

Date Collected: 08/03/21 11:45
Date Received: 08/04/21 10:54

Matrix: Water

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.13**		0.050	0.039	mg/L			08/09/21 13:06	1
Alkalinity as CaCO3	**75**		6.0	6.0	mg/L			08/15/21 14:30	1
Bicarbonate Alkalinity as CaCO3	**75**		6.0	6.0	mg/L			08/15/21 14:30	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 14:30	1
Total Dissolved Solids	**9700**	**D2**	200	200	mg/L			08/05/21 08:58	1
pH	**7.6**	**H5**	1.7	1.7	SU			08/05/21 18:50	1
Temperature	**8.8**	**H5**	0.1	0.1	Degrees C			08/05/21 18:50	1
Total Organic Carbon	**1.7**		0.50	0.26	mg/L			08/23/21 20:44	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-249963/2
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			08/06/21 11:44	1

Lab Sample ID: LCS 550-249963/5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			8.00	7.78		mg/L		97	90 - 110		

Lab Sample ID: LCSD 550-249963/6
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	7.79		mg/L		97	90 - 110	0	20

Lab Sample ID: 550-168303-A-2 MS ^5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	4.2	D1 M1	40.0	53.6	D1 M1	mg/L		124	80 - 120		

Lab Sample ID: 550-168303-A-2 MSD ^5
Matrix: Water
Analysis Batch: 249963

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	4.2	D1 M1	40.0	49.9	D1	mg/L		114	80 - 120	7	20

Lab Sample ID: MB 550-250142/2
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/09/21 12:29	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/09/21 12:29	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/09/21 12:29	1

Lab Sample ID: LCS 550-250142/5
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride			20.0	20.4		mg/L		102	90 - 110		
Fluoride			4.00	4.06		mg/L		102	90 - 110		
Sulfate			20.0	20.2		mg/L		101	90 - 110		

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-250142/6
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.06		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		101	90 - 110	0	20

Lab Sample ID: 550-168017-D-1 MS
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	110	E2	20.0	130	E2 M3	mg/L		96	80 - 120
Fluoride	0.38	E4 M1	4.00	6.17	M1	mg/L		145	80 - 120
Sulfate	39	M1	20.0	67.0	M1	mg/L		142	80 - 120

Lab Sample ID: 550-168017-D-1 MSD
Matrix: Water
Analysis Batch: 250142

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	110	E2	20.0	128	E2 M3	mg/L		87	80 - 120	1	20
Fluoride	0.38	E4 M1	4.00	5.85	M1	mg/L		137	80 - 120	5	20
Sulfate	39	M1	20.0	64.8	M1	mg/L		131	80 - 120	3	20

Lab Sample ID: MB 550-250143/1029
Matrix: Water
Analysis Batch: 250143

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			08/09/21 23:01	1
Fluoride	ND	E8	0.40	0.047	mg/L			08/09/21 23:01	1
Sulfate	ND	E8	2.0	0.43	mg/L			08/09/21 23:01	1

Lab Sample ID: LCS 550-250143/30
Matrix: Water
Analysis Batch: 250143

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			20.0	20.4		mg/L		102	90 - 110
Fluoride			4.00	4.08		mg/L		102	90 - 110
Sulfate			20.0	20.3		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-250143/31
Matrix: Water
Analysis Batch: 250143

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	20.5		mg/L		102	90 - 110	0	20
Fluoride			4.00	4.09		mg/L		102	90 - 110	0	20
Sulfate			20.0	20.3		mg/L		102	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-168321-A-5 MS ^2
Matrix: Water
Analysis Batch: 250143

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Chloride	1200	E2 M3 D1	40.0	1180	D1 E2 M3	mg/L		35	80 - 120		
Fluoride	0.52	E4 D1	8.00	8.82	D1	mg/L		104	80 - 120		
Sulfate	1200	E2 M3 D1	40.0	1210	D1 E2 M3	mg/L		41	80 - 120		

Lab Sample ID: 550-168321-A-5 MSD ^2
Matrix: Water
Analysis Batch: 250143

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1200	E2 M3 D1	40.0	1180	D1 E2 M3	mg/L		29	80 - 120	0	20
Fluoride	0.52	E4 D1	8.00	8.72	D1	mg/L		103	80 - 120	1	20
Sulfate	1200	E2 M3 D1	40.0	1210	D1 E2 M3	mg/L		32	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		08/06/21 05:58	08/11/21 08:32	1
Iron	ND	E8	0.10	0.010	mg/L		08/06/21 05:58	08/11/21 08:32	1
Manganese	ND	E8	0.010	0.00019	mg/L		08/06/21 05:58	08/11/21 08:32	1

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Calcium	ND	E8	2.0	0.013	mg/L		08/06/21 05:58	08/11/21 19:28	1
Magnesium	ND	E8	2.0	0.044	mg/L		08/06/21 05:58	08/11/21 19:28	1
Potassium	ND	E8	0.50	0.17	mg/L		08/06/21 05:58	08/11/21 19:28	1

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0025	mg/L		08/06/21 05:58	08/12/21 19:12	1

Lab Sample ID: MB 550-249879/1-A
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249879

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	0.0318	E4	0.50	0.031	mg/L		08/06/21 05:58	08/13/21 13:33	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.965		mg/L		96	85 - 115
Iron	1.00	0.964		mg/L		96	85 - 115
Manganese	1.00	0.964		mg/L		96	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	21.0	20.0		mg/L		95	85 - 115
Magnesium	21.0	20.3		mg/L		97	85 - 115
Potassium	20.0	19.4		mg/L		97	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCS 550-249879/2-A
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	20.0	19.8		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250228

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.968		mg/L		97	85 - 115	0	20
Iron	1.00	0.970		mg/L		97	85 - 115	1	20
Manganese	1.00	0.948		mg/L		95	85 - 115	2	20

Lab Sample ID: LCSD 550-249879/3-A
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	21.0	20.0		mg/L		95	85 - 115	0	20
Magnesium	21.0	20.3		mg/L		97	85 - 115	0	20
Potassium	20.0	19.3		mg/L		97	85 - 115	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-249879/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250429 — **Prep Batch: 249879**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron			1.00	1.02		mg/L		102	85 - 115	2	20

Lab Sample ID: LCSD 550-249879/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250513 — **Prep Batch: 249879**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium			20.0	19.2		mg/L		96	85 - 115	3	20

Lab Sample ID: 550-168321-C-5-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250228 — **Prep Batch: 249879**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00052	E4	1.00	0.971		mg/L		97	70 - 130
Iron	0.65		1.00	1.53		mg/L		87	70 - 130
Manganese	3.9	M2	1.00	4.61	M2	mg/L		69	70 - 130

Lab Sample ID: 550-168321-C-5-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250358 — **Prep Batch: 249879**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	120	M3	21.0	703	M3	mg/L		2787	70 - 130
Magnesium	14	M1	21.0	104	M1	mg/L		431	70 - 130
Potassium	1.3	M1	20.0	29.4	M1	mg/L		141	70 - 130

Lab Sample ID: 550-168321-C-5-A MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250429 — **Prep Batch: 249879**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.34		1.00	1.43		mg/L		108	70 - 130

Lab Sample ID: 550-168321-C-5-A MS ^2 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250513 — **Prep Batch: 249879**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	1600	M3	20.0	1530	M3	mg/L		-161	70 - 130

Lab Sample ID: 550-168321-C-5-B MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 250228 — **Prep Batch: 249879**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00052	E4	1.00	1.05		mg/L		105	70 - 130	8	20
Iron	0.65		1.00	1.64		mg/L		98	70 - 130	7	20
Manganese	3.9	M2	1.00	4.62		mg/L		70	70 - 130	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250358

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Calcium	120	M3	21.0	726	M3	mg/L		2896	70 - 130	3	20
Magnesium	14	M1	21.0	109	M1	mg/L		455	70 - 130	5	20
Potassium	1.3	M1	20.0	31.1	M1	mg/L		149	70 - 130	6	20

Lab Sample ID: 550-168321-C-5-B MSD
Matrix: Water
Analysis Batch: 250429

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.34		1.00	1.41		mg/L		107	70 - 130	1	20

Lab Sample ID: 550-168321-C-5-B MSD ^2
Matrix: Water
Analysis Batch: 250513

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249879

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	1600	M3	20.0	1540	M3	mg/L		-109	70 - 130	1	20

Lab Sample ID: MB 550-249882/1-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249882

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		08/06/21 06:04	08/11/21 20:19	1
Manganese	ND	E8	0.010	0.00019	mg/L		08/06/21 06:04	08/11/21 20:19	1

Lab Sample ID: LCS 550-249882/2-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249882

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.970		mg/L		97	85 - 115
Manganese	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-249882/3-A
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249882

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.00		mg/L		100	85 - 115	3	20
Manganese	1.00	1.02		mg/L		102	85 - 115	1	20

Lab Sample ID: MB 280-545884/1-A
Matrix: Water
Analysis Batch: 546124

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 545884

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		08/10/21 07:16	08/11/21 10:30	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 280-545884/2-A
Matrix: Water
Analysis Batch: 546124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 545884

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium			1.00	1.04		mg/L		104	90 - 112		

Lab Sample ID: 280-151618-G-1-B MS
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130		

Lab Sample ID: 280-151618-G-1-C MSD
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.065		1.00	1.24		mg/L		117	70 - 130	0	20

Lab Sample ID: 280-151647-A-1-B MS
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Lithium	0.010	E4	1.00	1.21		mg/L		120	70 - 130		

Lab Sample ID: 280-151647-A-1-C MSD
Matrix: Water
Analysis Batch: 546084

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 545884

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.010	E4	1.00	1.20		mg/L		119	70 - 130	1	20

Lab Sample ID: 550-168321-B-6-A MS
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 249882

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Iron	0.62		1.00	1.66		mg/L		104	70 - 130		
Manganese	4.0		1.00	4.83		mg/L		84	70 - 130		

Lab Sample ID: 550-168321-B-6-B MSD
Matrix: Water
Analysis Batch: 250359

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 249882

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.62		1.00	1.62		mg/L		100	70 - 130	2	20
Manganese	4.0		1.00	4.74		mg/L		75	70 - 130	2	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-249890/1-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249890

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000790	E4	0.0010	0.000043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Arsenic	0.000341	E4	0.00050	0.00025	mg/L		08/06/21 08:59	08/19/21 22:07	1
Barium	ND	E8	0.00050	0.00026	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		08/06/21 08:59	08/19/21 22:07	1
Chromium	ND	E8	0.0010	0.00043	mg/L		08/06/21 08:59	08/19/21 22:07	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 08:59	08/19/21 22:07	1
Lead	ND	E8	0.00050	0.00022	mg/L		08/06/21 08:59	08/19/21 22:07	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		08/06/21 08:59	08/19/21 22:07	1
Selenium	ND	E8	0.00050	0.000074	mg/L		08/06/21 08:59	08/19/21 22:07	1
Thallium	0.0000250	E4	0.00010	0.000013	mg/L		08/06/21 08:59	08/19/21 22:07	1

Lab Sample ID: LCS 550-249890/2-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.105		mg/L		105	85 - 115
Arsenic	0.100	0.103		mg/L		103	85 - 115
Barium	0.100	0.113		mg/L		113	85 - 115
Cadmium	0.100	0.107		mg/L		107	85 - 115
Chromium	0.100	0.109		mg/L		109	85 - 115
Cobalt	0.100	0.114		mg/L		114	85 - 115
Lead	0.100	0.108		mg/L		108	85 - 115
Molybdenum	0.100	0.112		mg/L		112	85 - 115
Selenium	0.100	0.100		mg/L		100	85 - 115
Thallium	0.100	0.108		mg/L		108	85 - 115

Lab Sample ID: LCSD 550-249890/3-A
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.104		mg/L		104	85 - 115	1	20
Arsenic	0.100	0.101		mg/L		101	85 - 115	3	20
Barium	0.100	0.111		mg/L		111	85 - 115	2	20
Cadmium	0.100	0.106		mg/L		106	85 - 115	1	20
Chromium	0.100	0.105		mg/L		105	85 - 115	4	20
Cobalt	0.100	0.109		mg/L		109	85 - 115	5	20
Lead	0.100	0.108		mg/L		108	85 - 115	0	20
Molybdenum	0.100	0.110		mg/L		110	85 - 115	2	20
Selenium	0.100	0.0969		mg/L		97	85 - 115	3	20
Thallium	0.100	0.110		mg/L		110	85 - 115	2	20

Lab Sample ID: 550-168310-B-1-B MS
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000088	E4	0.100	0.103		mg/L		103	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-168310-B-1-B MS
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130
Barium	0.094		0.100	0.213		mg/L		119	70 - 130
Cadmium	0.000078	E4	0.100	0.0984		mg/L		98	70 - 130
Chromium	0.00048	E4	0.100	0.102		mg/L		102	70 - 130
Cobalt	ND	E8	0.100	0.105		mg/L		105	70 - 130
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130
Molybdenum	0.0042		0.100	0.113		mg/L		109	70 - 130
Selenium	ND	E8	0.100	0.0976		mg/L		98	70 - 130
Thallium	0.000074	E4	0.100	0.0972		mg/L		97	70 - 130

Lab Sample ID: 550-168310-B-1-C MSD
Matrix: Water
Analysis Batch: 251013

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249890

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000088	E4	0.100	0.102		mg/L		102	70 - 130	2	20
Arsenic	0.00075		0.100	0.102		mg/L		101	70 - 130	0	20
Barium	0.094		0.100	0.209		mg/L		116	70 - 130	2	20
Cadmium	0.000078	E4	0.100	0.0968		mg/L		97	70 - 130	2	20
Chromium	0.00048	E4	0.100	0.101		mg/L		100	70 - 130	2	20
Cobalt	ND	E8	0.100	0.104		mg/L		104	70 - 130	1	20
Lead	ND	E8	0.100	0.0997		mg/L		100	70 - 130	0	20
Molybdenum	0.0042		0.100	0.110		mg/L		105	70 - 130	3	20
Selenium	ND	E8	0.100	0.0982		mg/L		98	70 - 130	1	20
Thallium	0.000074	E4	0.100	0.0994		mg/L		99	70 - 130	2	20

Lab Sample ID: MB 550-249891/1-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		08/06/21 09:06	08/19/21 22:53	1

Lab Sample ID: MB 550-249891/1-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249891

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		08/06/21 09:06	08/20/21 20:39	1

Lab Sample ID: LCS 550-249891/2-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249891

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.109		mg/L		109	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-249891/2-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic			0.100	0.105		mg/L		105	85 - 115		

Lab Sample ID: LCSD 550-249891/3-A
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt			0.100	0.106		mg/L		106	85 - 115	3	20

Lab Sample ID: LCSD 550-249891/3-A
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249891

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic			0.100	0.102		mg/L		102	85 - 115	2	20

Lab Sample ID: 550-168321-E-8-B MS
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Cobalt	0.013		0.100	0.114		mg/L		101	70 - 130		

Lab Sample ID: 550-168321-E-8-B MS
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Arsenic	0.0032		0.100	0.114		mg/L		111	70 - 130		

Lab Sample ID: 550-168321-E-8-C MSD
Matrix: Water
Analysis Batch: 251014

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.013		0.100	0.114		mg/L		101	70 - 130	0	20

Lab Sample ID: 550-168321-E-8-C MSD
Matrix: Water
Analysis Batch: 251184

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 249891

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0032		0.100	0.116		mg/L		112	70 - 130	1	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-249943/1-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 249943

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		08/06/21 16:03	08/06/21 20:14	1

Lab Sample ID: LCS 550-249943/2-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00439		mg/L		88	85 - 115

Lab Sample ID: LCSD 550-249943/3-A
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00460		mg/L		92	85 - 115	5	20

Lab Sample ID: 550-168118-B-1-C MS
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00460		mg/L		92	70 - 130

Lab Sample ID: 550-168118-B-1-D MSD
Matrix: Water
Analysis Batch: 249965

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 249943

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00456		mg/L		91	70 - 130	1	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-250078/21
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			08/09/21 11:23	1

Lab Sample ID: MB 550-250078/60
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			08/09/21 12:21	1

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-250078/22
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	1.04		mg/L		104	90 - 110		

Lab Sample ID: LCS 550-250078/61
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	0.964		mg/L		96	90 - 110		

Lab Sample ID: LCSD 550-250078/23
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	1.03		mg/L		103	90 - 110	1	20

Lab Sample ID: LCSD 550-250078/62
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	0.973		mg/L		97	90 - 110	1	20

Lab Sample ID: 550-168064-C-1 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.62		1.00	1.62		mg/L		100	90 - 110		

Lab Sample ID: 550-168064-C-1 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.62		1.00	1.61		mg/L		99	90 - 110	0	20

Lab Sample ID: 550-168129-C-1 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.40		1.00	1.40		mg/L		100	90 - 110		

Lab Sample ID: 550-168129-C-1 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.40		1.00	1.39		mg/L		99	90 - 110	1	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: 550-168321-B-5 MS
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND	E8	1.00	0.996		mg/L		100	90 - 110

Lab Sample ID: 550-168321-B-5 MSD
Matrix: Water
Analysis Batch: 250078

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND	E8	1.00	0.988		mg/L		99	90 - 110	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-250568/7
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			08/15/21 12:27	1

Lab Sample ID: LCS 550-250568/6
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-250568/20
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110	0	20

Lab Sample ID: 550-168830-A-2 DU
Matrix: Water
Analysis Batch: 250568

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	360		345		mg/L		3	20
Bicarbonate Alkalinity as CaCO3	360		345		mg/L		3	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-249706/1
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			08/05/21 08:58	1

Lab Sample ID: LCS 550-249706/2
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	960		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-249706/3
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	980		mg/L		98	90 - 110	2	10

Lab Sample ID: 550-168267-C-4 DU
Matrix: Water
Analysis Batch: 249706

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	7000	D2	7100	D2	mg/L		1	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-249873/25
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.3	98.5 - 101.5

Lab Sample ID: LCSSRM 550-249873/37
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: 550-168310-A-2 DU
Matrix: Water
Analysis Batch: 249873

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.9	H5	7.9	H5	SU		0	5
Temperature	10.5	H5	10.5	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-251294/5
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			08/23/21 18:59	1

Lab Sample ID: LCS 550-251294/6
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	21.8		mg/L		109	90 - 110
Total Organic Carbon - Duplicates	20.0	21.8		mg/L		109	90 - 110
Total Organic Carbon - Quad	20.0	21.8		mg/L		109	90 - 110

Lab Sample ID: LCSD 550-251294/7
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	21.1		mg/L		106	90 - 110	3	20
Total Organic Carbon - Duplicates	20.0	21.1		mg/L		106	90 - 110	3	20
Total Organic Carbon - Quad	20.0	21.1		mg/L		106	90 - 110	3	20

Lab Sample ID: 550-168582-A-12 MSD
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20
Total Organic Carbon - Duplicates	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20
Total Organic Carbon - Quad	5.6	M2	20.0	26.1		mg/L		103	90 - 110	19	20

Lab Sample ID: 550-168582-B-12 MS
Matrix: Water
Analysis Batch: 251294

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110
Total Organic Carbon - Duplicates	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110
Total Organic Carbon - Quad	5.6	M2	20.0	21.7	M2	mg/L		81	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-251751/5
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-251751/5
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			08/26/21 21:50	1

Lab Sample ID: LCS 550-251751/6
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	19.8		mg/L		99	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	19.8		mg/L		99	90 - 110
Dissolved Organic Carbon - Quad	20.0	19.8		mg/L		99	90 - 110

Lab Sample ID: LCSD 550-251751/7
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.6		mg/L		98	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	19.6		mg/L		98	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-168321-A-6 MS
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	0.75		20.0	19.9		mg/L		96	90 - 110
Dissolved Organic Carbon - Duplicate	0.75		20.0	19.9		mg/L		96	90 - 110
Dissolved Organic Carbon - Quad	0.75		20.0	19.9		mg/L		96	90 - 110

Lab Sample ID: 550-168321-A-6 MSD
Matrix: Water
Analysis Batch: 251751

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	0.75		20.0	19.4		mg/L		93	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	0.75		20.0	19.4		mg/L		93	90 - 110	3	20
Dissolved Organic Carbon - Quad	0.75		20.0	19.4		mg/L		93	90 - 110	3	20

HPLC/IC

Analysis Batch: 249963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
MB 550-249963/2	Method Blank	Total/NA	Water	300.0	
LCS 550-249963/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-249963/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168303-A-2 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-168303-A-2 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 250142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	300.0	
MB 550-250142/2	Method Blank	Total/NA	Water	300.0	
LCS 550-250142/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250142/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168017-D-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-168017-D-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 250143

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	300.0	
MB 550-250143/1029	Method Blank	Total/NA	Water	300.0	
LCS 550-250143/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-250143/31	Lab Control Sample Dup	Total/NA	Water	300.0	
550-168321-A-5 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-168321-A-5 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 249879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7	
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7	
550-168321-C-5-A MS ^2	Matrix Spike	Total/NA	Water	200.7	
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-168321-C-5-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 249882

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.7	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.7	
MB 550-249882/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 249882 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-249882/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-249882/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-168321-B-6-A MS	Matrix Spike	Dissolved	Water	200.7	
550-168321-B-6-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Prep Batch: 249890

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.8	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.8	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.8	
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-168310-B-1-B MS	Matrix Spike	Total/NA	Water	200.8	
550-168310-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 249891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8	
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8	
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

Prep Batch: 249943

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	245.1	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	245.1	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	245.1	
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Analysis Batch: 249965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	245.1	249943
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	245.1	249943
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	245.1	249943
MB 550-249943/1-A	Method Blank	Total/NA	Water	245.1	249943
LCS 550-249943/2-A	Lab Control Sample	Total/NA	Water	245.1	249943
LCSD 550-249943/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	249943
550-168118-B-1-C MS	Matrix Spike	Total/NA	Water	245.1	249943
550-168118-B-1-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	249943

Analysis Batch: 250228

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879

Metals (Continued)

Analysis Batch: 250228 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250358

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250359

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.7 Rev 4.4	249882
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.7 Rev 4.4	249882
MB 550-249882/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249882
LCS 550-249882/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249882
LCSD 550-249882/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249882
550-168321-B-6-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	249882
550-168321-B-6-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	249882

Analysis Batch: 250429

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	249879
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

Analysis Batch: 250513

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	249879
MB 550-249879/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	249879
LCS 550-249879/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	249879
LCSD 550-249879/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-A MS ^2	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	249879
550-168321-C-5-B MSD ^2	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	249879

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Metals

Analysis Batch: 251013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.8 LL	249890
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.8 LL	249890
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.8 LL	249890
MB 550-249890/1-A	Method Blank	Total/NA	Water	200.8 LL	249890
LCS 550-249890/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249890
LCSD 550-249890/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249890
550-168310-B-1-B MS	Matrix Spike	Total/NA	Water	200.8 LL	249890
550-168310-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	249890

Analysis Batch: 251014

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8 LL	249891
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8 LL	249891
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8 LL	249891
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249891
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249891
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8 LL	249891
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	249891

Analysis Batch: 251184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	200.8 LL	249891
MB 550-249891/1-A	Method Blank	Total/NA	Water	200.8 LL	249891
LCS 550-249891/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	249891
LCSD 550-249891/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	249891
550-168321-E-8-B MS	Matrix Spike	Dissolved	Water	200.8 LL	249891
550-168321-E-8-C MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	249891

Analysis Batch: 251280

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	200.8 LL	249891

Prep Batch: 545884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7	
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7	
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7	
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 546084

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	200.7 Rev 4.4	545884
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	200.7 Rev 4.4	545884
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151618-G-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884

Metals (Continued)

Analysis Batch: 546084 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-151647-A-1-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	545884
280-151647-A-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	545884

Analysis Batch: 546124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 280-545884/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	545884
LCS 280-545884/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	545884

General Chemistry

Analysis Batch: 249706

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	SM 2540C	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	SM 2540C	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 2540C	
MB 550-249706/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-249706/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-249706/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-168267-C-4 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 249873

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	SM 4500 H+ B	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	SM 4500 H+ B	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-249873/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-168310-A-2 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 250078

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-1	CH-CCR-W123R-0821	Total/NA	Water	350.1	
550-168312-3	CH-CCR-W126R-0821	Total/NA	Water	350.1	
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	350.1	
MB 550-250078/21	Method Blank	Total/NA	Water	350.1	
MB 550-250078/60	Method Blank	Total/NA	Water	350.1	
LCS 550-250078/22	Lab Control Sample	Total/NA	Water	350.1	
LCS 550-250078/61	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-250078/23	Lab Control Sample Dup	Total/NA	Water	350.1	
LCSD 550-250078/62	Lab Control Sample Dup	Total/NA	Water	350.1	
550-168064-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-168064-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-168129-C-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-168129-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	
550-168321-B-5 MS	Matrix Spike	Total/NA	Water	350.1	
550-168321-B-5 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 250568

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 2320B	
MB 550-250568/7	Method Blank	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 250568 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-250568/6	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-250568/20	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-168830-A-2 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 251294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-5	CH-CCR-GSX1R-0821	Total/NA	Water	SM 5310B	
MB 550-251294/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-251294/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-251294/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-168582-A-12 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	
550-168582-B-12 MS	Matrix Spike	Total/NA	Water	SM 5310B	

Analysis Batch: 251751

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-168312-2	CH-CCR-W123R-0821	Dissolved	Water	SM 5310B	
550-168312-4	CH-CCR-W126R-0821	Dissolved	Water	SM 5310B	
MB 550-251751/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-251751/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-251751/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-168321-A-6 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-168321-A-6 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-1
Date Collected: 08/03/21 12:42
Matrix: Water
Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 22:06	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 22:24	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 20:36	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:02	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:51	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:31	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:39	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:22	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:45	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 12:11	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W123R-0821

Lab Sample ID: 550-168312-2
Date Collected: 08/03/21 12:42
Matrix: Water
Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			249882	08/06/21 06:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	250359	08/11/21 20:33	MGM	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251014	08/19/21 23:06	ARE	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251184	08/20/21 20:52	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	251751	08/26/21 23:02	MEG	TAL PHX

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3
Date Collected: 08/03/21 10:02
Matrix: Water
Date Received: 08/04/21 10:54

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250142	08/09/21 21:29	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250142	08/09/21 21:47	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 21:04	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:04	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-3

Date Collected: 08/03/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:53	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:33	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:43	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:24	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:47	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 12:42	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX

Client Sample ID: CH-CCR-W126R-0821

Lab Sample ID: 550-168312-4

Date Collected: 08/03/21 10:02
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			249882	08/06/21 06:04	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	250359	08/11/21 20:35	MGM	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251014	08/19/21 23:08	ARE	TAL PHX
Dissolved	Prep	200.8			249891	08/06/21 09:06	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	251280	08/23/21 20:49	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	251751	08/26/21 23:13	MEG	TAL PHX

Client Sample ID: CH-CCR-GSX1R-0821

Lab Sample ID: 550-168312-5

Date Collected: 08/03/21 11:45
Date Received: 08/04/21 10:54

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	250143	08/10/21 06:04	JNW	TAL PHX
Total/NA	Analysis	300.0		200	250143	08/10/21 06:22	JNW	TAL PHX
Total/NA	Analysis	300.0		5	249963	08/06/21 21:32	JNW	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250228	08/10/21 18:06	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250358	08/11/21 19:56	MGM	TAL PHX
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	250429	08/12/21 19:38	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Replacement Well Sampling

Job ID: 550-168312-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-GSX1R-0821
Date Collected: 08/03/21 11:45
Date Received: 08/04/21 10:54

Lab Sample ID: 550-168312-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			249879	08/06/21 05:58	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	250513	08/13/21 13:47	MGM	TAL PHX
Total/NA	Prep	200.7			545884	08/10/21 07:16	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	546084	08/11/21 01:46	LMT	TAL DEN
Total/NA	Prep	200.8			249890	08/06/21 08:59	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	251013	08/19/21 22:26	ARE	TAL PHX
Total/NA	Prep	245.1			249943	08/06/21 16:03	SRR	TAL PHX
Total/NA	Analysis	245.1		1	249965	08/06/21 20:53	SRR	TAL PHX
Total/NA	Analysis	350.1		1	250078	08/09/21 13:06	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	250568	08/15/21 14:30	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	249706		YET	TAL PHX
					(Start)	08/05/21 08:58		
					(End)	08/06/21 07:20		
Total/NA	Analysis	SM 4500 H+ B		1	249873	08/05/21 18:50	MEG	TAL PHX
Total/NA	Analysis	SM 5310B		1	251294	08/23/21 20:44	DGS	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-168312-1
Project/Site: CCR Replacement Well Sampling — SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-02-21
A2LA	ISO/IEC 17025	2907.01	11-02-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	08-01-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

168312

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

8/28/2021

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 1 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Replacement Well Sampling	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (DOC)	SM 5310B (TOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Me, K, Mg, Na)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
CH-CCR-W123R-0821	-01 +02	8/3/21	12:42	G	W	8		N	X	X	X	X	X	X	X	X	X		X	X			Low flow
CH-CCR-W126R-0821	-03 +04	"	10:02	G	W	8		N	X	X	X	X	X	X	X	X	X		X	X			"
CH-CCR-GSX1R-0821	-05	"	11:45	G	W	7		N	X			X		X	X	X		X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	2	3	2	4	1	

550-168312 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

2.4°C ICE

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by: [signature]	Company: Wood	Date/Time: 8/4/21 10:54	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: [signature]	Company: ETA PHX	Date/Time: 8/4/21 1054

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-31552.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-168312-1
Address: 4955 Yarrow Street,	Due Date Requested: 8/17/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Replacement Well Sampling	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W123R-0821 (550-168312-1)	8/3/21	12:42 Arizona		Water			X	1	AZ Sample
CH-CCR-W126R-0821 (550-168312-3)	8/3/21	10:02 Arizona		Water			X	1	AZ Sample
CH-CCR-GSX1R-0821 (550-168312-5)	8/3/21	11:45 Arizona		Water			X	1	AZ Sample

550-168312 Chain of Custody

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify)   Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 08-04-21 14:40	Company: TA-PHX	Received by: Fedex	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 8/5/21 920	Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.: 1796023		Cooler Temperature(s) °C and Other Remarks: 0.3 IR 12 CF +0.6		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168312-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 168312
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-168312-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 168312
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 08/05/21 02:37 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123R-0821	< 0.7	< 0.6	< 0.7

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021

Jeremy Russell, BSE Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

August 3, 2021 — Sample Date
12:42 (24 hour clock) — Sample Time

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006			μg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.7		
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67111

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W123R-0821

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126R-0821	0.4 ± 0.2	< 0.6	0.4 ± 0.2

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021

Jeremy Russell, BSE — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

August 3, 2021 — Sample Date
10:02 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

\>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6	

*****LABORATORY INFORMATION*****

\>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67112

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W126R20821

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121 (480) 897-9459
Website: www.radsafe.com FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: August 03, 2021
Sample Received: August 04, 2021
Analysis Completed: August 18, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-GSX1R-0821	< 0.4	< 0.6	< 0.6

Date of Analysis	8/6/2021	8/6/2021	8/6/2021

8/18/2021
Jeremy Russell, BSE Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

August 3, 2021 | 11:45 (24 hour clock)

Sample Date | Sample Time | Owner/Contact Person

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ______________

☐ Quarterly — Date Q2 collected: ______________

☐ Composite of four quarterly samples — Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	8/6/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	8/6/2021	< 0.4		
GammaRay HPGE		1 pCi/L	Radium 228	4030	8/6/2021	< 0.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67113

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-GSX1R-0821

Authorized Signature:

Date Public Water System Notified:

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 North Washington Street
Chandler, Arizona
85225

Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (FAP)

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air	
CH-CCR-W123R-0821	8/3/21	12:42	GW						X	X	X						67111
CH-CCR-W126R-0821	"	10:02	GW						X	X	X						67112
CH-CCR-GSX1R-0821	"	11:45	GW						X	X	X						67113

Sample Receipt

Total No. of Containers	
Chain of Custody Seals	
Container Condition	
Lab No.	

Invoice to:

Instructions/Comments

Method HPGe

PO #: 300588231

Relinquished By: [signature]	Company: Wood	Date/time: 8-4-21 11:41	Received By: Pat [signature]	Company: RSE	Date/time: 8/4/21 11:41
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-173429-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
11/18/2021 6:58:17 AM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

Definitions/Glossary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H3	Sample was received and/ or analysis requested past holding time.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
N1	See case narrative.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Job ID: 550-173429-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-173429-1

Comments
No additional comments.

Receipt
The samples were received on 11/1/2021 3:48 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.6º C and 1.8º C.

Receipt Exceptions
The following samples were received outside of holding time:

TDS was received past hold.
1
5
7
9
12
14
16
18
21
24

CH-CCR-M43-1021 (550-173429-1), CH-CCR-M43-1021 (550-173429-2), CH-CCR-M44D-1021 (550-173429-3), CH-CCR-M44D-1021 (550-173429-3[MS]), CH-CCR-M44D-1021 (550-173429-3[MSD]), CH-CCR-M45-1021 (550-173429-4), CH-CCR-M46-1021 (550-173429-5), CH-CCR-M46-1021 (550-173429-6), CH-CCR-M50-1021 (550-173429-7), CH-CCR-M50-1021 (550-173429-8), CH-CCR-M51-1021 (550-173429-9), CH-CCR-M51-1021 (550-173429-10), CH-CCR-M63-1021 (550-173429-11), CH-CCR-M64-1021 (550-173429-12), CH-CCR-M64-1021 (550-173429-13), CH-CCR-M65-1021 (550-173429-14), CH-CCR-M65-1021 (550-173429-15), CH-CCR-M66-1021 (550-173429-16), CH-CCR-M66-1021 (550-173429-17), CH-CCR-M67-1021 (550-173429-18), CH-CCR-M67-1021 (550-173429-19), CH-CCR-FD05-1021 (550-173429-20), CH-CCR-W123R-1021 (550-173429-21), CH-CCR-W123R-1021 (550-173429-22), CH-CCR-W125-1021 (550-173429-23), CH-CCR-W126R-1021 (550-173429-24), CH-CCR-W126R-1021 (550-173429-25), CH-CCR-FAP-1021 (550-173429-26), CH-CCR-FAP-1021 (550-173429-27) and CH-CCR-FD06-1021 (550-173429-28).

For methods requested for the sample and the MS/MSD are not the same.
The list of 200.7 metals does not match.

CH-CCR-M44D-1021 (550-173429-3), CH-CCR-M44D-1021 (550-173429-3[MS]) and CH-CCR-M44D-1021 (550-173429-3[MSD])

HPLC/IC
Method 300.0: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample and laboratory control sample duplicate (LCS/LCSD), associated with analytical batch 550-258041 by method EPA 300.0. The multi-anion and nitrite spike solutions were added twice to the LCS/LCSD which doubled the final concentration amount. The LCS/LCSD percent recoveries were calculated using the actual amount spiked which achieved results within the acceptance range.

Method 300.0: The results for the source sample and the matrix spike / matrix spike duplicate (MS/MSD) associated with analytical batch 550-258037 for Sulfate by method EPA 300.0 could not be reported due to the analyte concentration in the diluted sample exceeding the low end of the instrument calibration range. As such, reanalysis at a lower dilution was required and no results could be reported for the associated source sample. The results for the batch laboratory control sample / laboratory sample control duplicate (LCS/LCSD) met method acceptance criteria and may be used to verify accuracy and precision. Therefore, the following sample results have been reported and qualified with N1 flags.

CH-CCR-M45-1021 (550-173429-4) and CH-CCR-M46-1021 (550-173429-5)

Job ID: 550-173429-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

Method 300.0: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample and laboratory control sample duplicate (LCS/LCSD), associated with analytical batch 550-258215 by method EPA 300.0. The LCS/LCSD percent recoveries were calculated using the actual amount spiked which achieved results within the acceptance range.

Method 300.0: An incorrect volume of spiking solution was inadvertently added to the laboratory control sample and laboratory control sample duplicate (LCS/LCSD), associated with analytical batch 550-258216 by method EPA 300.0. The LCS/LCSD percent recoveries were calculated using the actual amount spiked which achieved results within the acceptance range.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: CH-CCR-FAP-1021 (550-173429-27). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-258167 contained Boron above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following sample was diluted due to the nature of the sample matrix: CH-CCR-FAP-1021 (550-173429-26). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following sample was diluted to bring the concentration of target analytes within the calibration range: CH-CCR-FAP-1021 (550-173429-26). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-258167 contained Sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M46-1021 (550-173429-5) and CH-CCR-M67-1021 (550-173429-18). Elevated reporting limits (RLs) are provided.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-258422 contained Arsenic above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7: Insufficient sample volume was available to perform a second matrix spike/matrix spike duplicate (MS/MSD) associated with 280-556663 for the 200.7_TR method. An LCSD was included instead.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries and precision for analytical batch 550-258332 were outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

Method SM 5310B: The matrix spike (MS) recovery and the matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 550-258332 were outside control limits for Dissolved organic Carbon (DOC). Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

Method SM 5310B: The matrix spike duplicate (MSD) recovery for analytical batch 550-258432 was outside control limits for Dissolved

Job ID: 550-173429-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method SM 5310B: The results for Dissolved Organic Carbon (DOC) by method SM 5310B_DOC_B for the following sample did not meet the method requirement for consecutive injections to have a relative percent difference (RPD) of at least 10 due to matrix interferences; CH-CCR-M43-1021 (550-173429-2) . The sample was analyzed two times with similar results. The result reported had the lowest RPD value between consecutive injections (RPD 12) which was slightly over the method limit. As such, the data has been reported and qualified with an N1 flag.

Method SM 5310B: The method blank for analytical batch 550-258432 contained Dissolved Organic Carbon (DOC) above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

Method SM 5310B: The method blank for analytical batch 550-258433 contained Total Organic Carbon (TOC) above the method detection limit (MDL). This target analyte concentration was less than the reporting limit (RL); therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-173429-1	CH-CCR-M43-1021	Water	10/22/21 11:41	11/01/21 15:48
550-173429-2	CH-CCR-M43-1021	Water	10/22/21 11:41	11/01/21 15:48
550-173429-3	CH-CCR-M44D-1021	Water	10/23/21 15:33	11/01/21 15:48
550-173429-4	CH-CCR-M45-1021	Water	10/22/21 10:33	11/01/21 15:48
550-173429-5	CH-CCR-M46-1021	Water	10/22/21 13:57	11/01/21 15:48
550-173429-6	CH-CCR-M46-1021	Water	10/22/21 13:57	11/01/21 15:48
550-173429-7	CH-CCR-M50-1021	Water	10/23/21 10:37	11/01/21 15:48
550-173429-8	CH-CCR-M50-1021	Water	10/23/21 10:37	11/01/21 15:48
550-173429-9	CH-CCR-M51-1021	Water	10/23/21 12:41	11/01/21 15:48
550-173429-10	CH-CCR-M51-1021	Water	10/23/21 12:41	11/01/21 15:48
550-173429-11	CH-CCR-M63-1021	Water	10/24/21 08:30	11/01/21 15:48
550-173429-12	CH-CCR-M64-1021	Water	10/22/21 08:55	11/01/21 15:48
550-173429-13	CH-CCR-M64-1021	Water	10/22/21 08:55	11/01/21 15:48
550-173429-14	CH-CCR-M65-1021	Water	10/22/21 13:00	11/01/21 15:48
550-173429-15	CH-CCR-M65-1021	Water	10/22/21 13:00	11/01/21 15:48
550-173429-16	CH-CCR-M66-1021	Water	10/24/21 10:08	11/01/21 15:48
550-173429-17	CH-CCR-M66-1021	Water	10/24/21 10:08	11/01/21 15:48
550-173429-18	CH-CCR-M67-1021	Water	10/22/21 14:57	11/01/21 15:48
550-173429-19	CH-CCR-M67-1021	Water	10/22/21 14:57	11/01/21 15:48
550-173429-20	CH-CCR-FD05-1021	Water	10/23/21 09:48	11/01/21 15:48
550-173429-21	CH-CCR-W123R-1021	Water	10/23/21 08:45	11/01/21 15:48
550-173429-22	CH-CCR-W123R-1021	Water	10/23/21 08:45	11/01/21 15:48
550-173429-23	CH-CCR-W125-1021	Water	10/23/21 09:48	11/01/21 15:48
550-173429-24	CH-CCR-W126R-1021	Water	10/23/21 11:20	11/01/21 15:48
550-173429-25	CH-CCR-W126R-1021	Water	10/23/21 11:20	11/01/21 15:48
550-173429-26	CH-CCR-FAP-1021	Water	10/31/21 13:25	11/01/21 15:48
550-173429-27	CH-CCR-FAP-1021	Water	10/31/21 13:25	11/01/21 15:48
550-173429-28	CH-CCR-FD06-1021	Water	10/23/21 15:33	11/01/21 15:48

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.20	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.3		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.6		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00026	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0027		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.017		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.0041		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00039	E4	0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0032		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00064		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00011		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.35	M1	0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	6200	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.6		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0024		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00050		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	N1	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M44D-1021

Lab Sample ID: 550-173429-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.76	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	330	D2	20	4.3	mg/L	10		300.0	Total/NA
Lithium	0.041		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.24		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	84		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000071	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0016		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.020		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000043	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0021		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00019	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00044		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	2200	D2 H3	40	40	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M45-1021

Lab Sample ID: 550-173429-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	790	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.57	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2400	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	640		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000049	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0032		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.017		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0039		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00052		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000057	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	4200	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46-1021

Lab Sample ID: 550-173429-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.97	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2300	D2 N1	400	85	mg/L	200		300.0	Total/NA
Lithium	0.24		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.64		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1200	D2	4.0	0.026	mg/L	2		200.7 Rev 4.4	Total/NA
Iron	1.3		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0042		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.027		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000051	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.033		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0010		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.010		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00062		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000052	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.52		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	12000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M46-1021

Lab Sample ID: 550-173429-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.2		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0027		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0015		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	3.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50-1021 — Lab Sample ID: 550-173429-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	6300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.44		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.087	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.37		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0041		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0090		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000032	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0036		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00058		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0090		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0017		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000094	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	7200	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M50-1021 — Lab Sample ID: 550-173429-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.037	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.38		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0044		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.00077		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.9		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M51-1021 — Lab Sample ID: 550-173429-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	8700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.7	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.45		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	28		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	840		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.039	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.86		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.023	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.0081	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00014		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0015	D1 E4	0.0020	0.00025	mg/L	4		200.8 LL	Total/NA
Molybdenum	0.14		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Thallium	0.00021		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.061		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M51-1021 (Continued) — Lab Sample ID: 550-173429-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
pH	7.3	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	15.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M51-1021 — Lab Sample ID: 550-173429-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.037	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.89		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.022		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M63-1021 — Lab Sample ID: 550-173429-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	360	D2	4.0	1.0	mg/L	2		300.0	Total/NA
Fluoride	0.25	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.067		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.23		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	150		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000081	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0031		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.029		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000034	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00011	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000045	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1500	H3	20	20	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	16.4	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M64-1021 — Lab Sample ID: 550-173429-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.38	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.28		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.0		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	540		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	6.1		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.3		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00013	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00030	E4	0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.012		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000036	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.00050	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0046		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M64-1021 (Continued) — Lab Sample ID: 550-173429-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.00020	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Ammonia	0.77		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	8.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M64-1021 — Lab Sample ID: 550-173429-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	6.6		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0015		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.000091	E4	0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	4.5	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	4.5	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	4.5	M2 R13	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M65-1021 — Lab Sample ID: 550-173429-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.4	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.59		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	12		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.3		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.28		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000085	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0024		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.022		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000083	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0041		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0025		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00037	E4	0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.12		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00081		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000021	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.061		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	9200	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.3	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M65-1021 — Lab Sample ID: 550-173429-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.43		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.24		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0026		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0023		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M65-1021 (Continued) — Lab Sample ID: 550-173429-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Dissolved Organic Carbon - Quad	2.8		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M66-1021 — Lab Sample ID: 550-173429-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.3	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.51		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.7		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	800		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.1		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	3.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000094	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00097		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.018		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.00030		0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.012		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0015		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00029	E4	0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.016		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.014		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00013		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.13		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M66-1021 — Lab Sample ID: 550-173429-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.26		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	3.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M67-1021 — Lab Sample ID: 550-173429-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	5700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.90	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	1500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.17		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.34		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	1700	D2	4.0	0.026	mg/L	2		200.7 Rev 4.4	Total/NA
Iron	8.3		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	4.9		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000051	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.015		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M67-1021 (Continued) — Lab Sample ID: 550-173429-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.025		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.00051	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0038		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0051		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00043	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000036	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	1.4		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	10000	D2 H3	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.1	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-M67-1021 — Lab Sample ID: 550-173429-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	8.5		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	5.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.018	B3	0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0042		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD05-1021 — Lab Sample ID: 550-173429-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	760	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.53	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	380	D2	100	21	mg/L	50		300.0	Total/NA
Lithium	0.026		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.16		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000096	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0038		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.022		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.00072		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0025		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1600	H3	20	20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.0	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W123R-1021 — Lab Sample ID: 550-173429-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6300	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.17	D1 E4	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	4200	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.51		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	38		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	2.5		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W123R-1021 (Continued) — Lab Sample ID: 550-173429-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.00020	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0036		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.011		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000057	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.0015		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0035		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Lead	0.00028	E4	0.00050	0.00022	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.22		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00071		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00026		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	1.2		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	11000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.6	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W123R-1021 — Lab Sample ID: 550-173429-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.043	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	2.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0047		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0039		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W125-1021 — Lab Sample ID: 550-173429-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	750	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.56	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	310	D2	100	21	mg/L	50		300.0	Total/NA
Lithium	0.026		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.18		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	120		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000066	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.0051		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.022		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0012		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0028		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.00011	E4	0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.000015	E4	0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Total Dissolved Solids	1700	H3	20	20	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.1	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-1021 — Lab Sample ID: 550-173429-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	7400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	5.6	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	5100	D2	400	85	mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W126R-1021 (Continued)

Lab Sample ID: 550-173429-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lithium	0.62		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	46		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	1.1		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.51		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00014	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00079		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.0094		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Cadmium	0.000070	E4	0.00010	0.000023	mg/L	1		200.8 LL	Total/NA
Chromium	0.010		0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0040		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.31		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Selenium	0.0012		0.00050	0.000074	mg/L	1		200.8 LL	Total/NA
Thallium	0.00013		0.00010	0.000013	mg/L	1		200.8 LL	Total/NA
Ammonia	0.42		0.050	0.039	mg/L	1		350.1	Total/NA
Total Dissolved Solids	12000	D2 H3	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.2	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-W126R-1021

Lab Sample ID: 550-173429-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.071	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.49		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0025		0.00050	0.00025	mg/L	1		200.8 LL	Dissolved
Cobalt	0.0041		0.00050	0.000063	mg/L	1		200.8 LL	Dissolved
Dissolved Organic Carbon	2.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FAP-1021

Lab Sample ID: 550-173429-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	54000	D2	2000	520	mg/L	1000		300.0	Total/NA
Fluoride	290	D2	80	9.5	mg/L	200		300.0	Total/NA
Sulfate	52000	D2	2000	430	mg/L	1000		300.0	Total/NA
Beryllium	0.013	D1 E4	0.020	0.0013	mg/L	20		200.7 Rev 4.4	Total/NA
Lithium	7.9		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	680	D1	1.0	0.051	mg/L	20		200.7 Rev 4.4	Total/NA
Calcium	680	D1	40	0.26	mg/L	20		200.7 Rev 4.4	Total/NA
Iron	3.3	D1	2.0	0.20	mg/L	20		200.7 Rev 4.4	Total/NA
Magnesium	12000	D1	40	0.89	mg/L	20		200.7 Rev 4.4	Total/NA
Manganese	28	D1	0.20	0.0038	mg/L	20		200.7 Rev 4.4	Total/NA
Potassium	520	D1	10	3.4	mg/L	20		200.7 Rev 4.4	Total/NA
Sodium	32000	D2	50	3.1	mg/L	100		200.7 Rev 4.4	Total/NA
Antimony	0.066	D1	0.010	0.00043	mg/L	10		200.8 LL	Total/NA
Arsenic	0.63	D1	0.0050	0.0025	mg/L	10		200.8 LL	Total/NA
Barium	0.14	D1	0.0050	0.0026	mg/L	10		200.8 LL	Total/NA
Cadmium	0.00090	D1 E4	0.0010	0.00023	mg/L	10		200.8 LL	Total/NA
Chromium	0.0099	D1 E4	0.010	0.0043	mg/L	10		200.8 LL	Total/NA
Cobalt	0.019	D1	0.0050	0.00063	mg/L	10		200.8 LL	Total/NA
Molybdenum	0.77	D1	0.0050	0.0020	mg/L	10		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-FAP-1021 (Continued) — Lab Sample ID: 550-173429-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Selenium	0.071	D1	0.0050	0.00074	mg/L	10		200.8 LL	Total/NA
Thallium	0.00051	D1 E4	0.0010	0.00013	mg/L	10		200.8 LL	Total/NA
Ammonia	0.14		0.050	0.039	mg/L	1		350.1	Total/NA
Alkalinity as CaCO3	240		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	240		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	160000	D2	2000	2000	mg/L	1		SM 2540C	Total/NA
pH	5.8	H5	1.7	1.7	SU	1		SM 4500 H+ B	Total/NA
Temperature	20.7	H5	0.1	0.1	Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	76	D2	5.0	2.6	mg/L	10		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FAP-1021 — Lab Sample ID: 550-173429-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	3.1	D1	0.50	0.050	mg/L	5		200.7 Rev 4.4	Dissolved
Manganese	25	D1	0.050	0.00096	mg/L	5		200.7 Rev 4.4	Dissolved
Arsenic	0.62	B3 D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.020	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	74	D2	5.0	2.6	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	74	D2	5.0	2.6	mg/L	10		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	74	D2	5.0	2.6	mg/L	10		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD06-1021 — Lab Sample ID: 550-173429-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1100	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.66	D1 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	410	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.039		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.43		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	83		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.000069	E4	0.0010	0.000043	mg/L	1		200.8 LL	Total/NA
Arsenic	0.00093		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Barium	0.021		0.00050	0.00026	mg/L	1		200.8 LL	Total/NA
Chromium	0.00044	E4	0.0010	0.00043	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.0032		0.00050	0.00020	mg/L	1		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-1
Date Collected: 10/22/21 11:41
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100	D2	400	100	mg/L			11/09/21 03:35	200
Fluoride	0.20	D1 E4	0.80	0.095	mg/L			11/09/21 03:16	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 04:59	5
Sulfate	2200	D2	400	85	mg/L			11/09/21 03:35	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:10	1
Lithium	0.20		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 21:32	1
Boron	1.3		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:10	1
Calcium	780		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:10	1
Iron	2.6		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:10	1
Manganese	2.7		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00026	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 17:54	1
Arsenic	0.0027		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 17:54	1
Barium	0.017		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:11	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 17:54	1
Chromium	0.0041		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 17:54	1
Cobalt	0.00039	E4	0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:11	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 17:54	1
Molybdenum	0.0032		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 17:54	1
Selenium	0.00064		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:11	1
Thallium	0.00011		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 17:54	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:48	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.35	M1	0.050	0.039	mg/L			11/10/21 08:49	1
Total Dissolved Solids	6200	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.4	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.4	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-2
Date Collected: 10/22/21 11:41
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	2.6		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:17	1
Manganese	2.8		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:17	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0024		0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:46	1
Cobalt	0.00050		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:46	1

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-2
Date Collected: 10/22/21 11:41
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4	N1	0.50	0.26	mg/L			11/11/21 19:07	1
Dissolved Organic Carbon - Duplicate	1.4	N1	0.50	0.26	mg/L			11/11/21 19:07	1
Dissolved Organic Carbon - Quad	1.4	N1	0.50	0.26	mg/L			11/11/21 19:07	1

Client Sample ID: CH-CCR-M44D-1021

Lab Sample ID: 550-173429-3
Date Collected: 10/23/21 15:33
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	100	mg/L			11/09/21 06:02	200
Fluoride	0.76	D1 E4	0.80	0.095	mg/L			11/09/21 05:07	2
Sulfate	330	D2	20	4.3	mg/L			11/09/21 21:13	10

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:08	1
Lithium	0.041		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 21:36	1
Boron	0.24		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:08	1
Calcium	84		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:08	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000071	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 17:52	1
Arsenic	0.0016		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 17:52	1
Barium	0.020		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:09	1
Cadmium	0.000043	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 17:52	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 17:52	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:09	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 17:52	1
Molybdenum	0.0021		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 17:52	1
Selenium	0.00019	E4	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:09	1
Thallium	0.00044		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 17:52	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:46	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	2200	D2 H3	40	40	mg/L			11/04/21 08:13	1
pH	7.1	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.3	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M45-1021

Lab Sample ID: 550-173429-4
Date Collected: 10/22/21 10:33
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	790	D2	400	100	mg/L			11/09/21 07:15	200

Client Sample ID: CH-CCR-M45-1021

Date Collected: 10/22/21 10:33
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-4
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	0.57	D1 E4	0.80	0.095	mg/L			11/09/21 06:57	2
Sulfate	2400	D2 N1	400	85	mg/L			11/09/21 07:15	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:13	1
Lithium	0.20		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 21:52	1
Boron	1.0		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:13	1
Calcium	640		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000049	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 17:56	1
Arsenic	0.0032		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 17:56	1
Barium	0.017		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:13	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 17:56	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 17:56	1
Cobalt	0.0011		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:13	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 17:56	1
Molybdenum	0.0039		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 17:56	1
Selenium	0.00052		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:13	1
Thallium	0.000057	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 17:56	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:50	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	4200	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.1	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.0	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M46-1021

Date Collected: 10/22/21 13:57
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-5
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6700	D2	400	100	mg/L			11/09/21 07:52	200
Fluoride	0.97	D1	0.80	0.095	mg/L			11/09/21 07:34	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 05:27	5
Sulfate	2300	D2 N1	400	85	mg/L			11/09/21 07:52	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:16	1
Lithium	0.24		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 21:56	1
Boron	0.64		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:16	1
Calcium	1200	D2	4.0	0.026	mg/L		11/08/21 10:47	11/10/21 16:47	2
Iron	1.3		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:16	1

Client Sample ID: CH-CCR-M46-1021
Lab Sample ID: 550-173429-5
Date Collected: 10/22/21 13:57
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	3.0		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:16	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 17:58	1
Arsenic	0.0042		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 17:58	1
Barium	0.027		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:15	1
Cadmium	0.000051	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 17:58	1
Chromium	0.033		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 17:58	1
Cobalt	0.0010		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:15	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 17:58	1
Molybdenum	0.010		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 17:58	1
Selenium	0.00062		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:15	1
Thallium	0.000052	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 17:58	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.52		0.050	0.039	mg/L			11/10/21 08:53	1
Total Dissolved Solids	12000	D2 H3	200	200	mg/L			11/04/21 08:13	1
pH	7.1	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.4	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M46-1021
Lab Sample ID: 550-173429-6
Date Collected: 10/22/21 13:57
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.2		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:09	1
Manganese	3.1		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0027		0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:48	1
Cobalt	0.0015		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:48	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.5		0.50	0.26	mg/L			11/11/21 19:18	1
Dissolved Organic Carbon - Duplicate	3.5		0.50	0.26	mg/L			11/11/21 19:18	1
Dissolved Organic Carbon - Quad	3.5		0.50	0.26	mg/L			11/11/21 19:18	1

Client Sample ID: CH-CCR-M50-1021

Lab Sample ID: 550-173429-7
Date Collected: 10/23/21 10:37
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3300	D2	400	100	mg/L			11/08/21 22:58	200
Fluoride	2.3	D1	0.80	0.095	mg/L			11/08/21 22:30	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 05:55	5
Sulfate	6300	D2	400	85	mg/L			11/08/21 22:58	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:18	1
Lithium	0.44		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:28	1
Boron	2.9		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:18	1
Calcium	590		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:18	1
Iron	0.087	E4	0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:18	1
Manganese	0.37		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:18	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:00	1
Arsenic	0.0041		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 18:00	1
Barium	0.0090		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:17	1
Cadmium	0.000032	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:00	1
Chromium	0.0036		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:00	1
Cobalt	0.00058		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:17	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:00	1
Molybdenum	0.0090		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:00	1
Selenium	0.0017		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:17	1
Thallium	0.000094	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:00	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/10/21 08:55	1
Total Dissolved Solids	7200	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.4	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.0	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M50-1021

Lab Sample ID: 550-173429-8
Date Collected: 10/23/21 10:37
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.037	E4	0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:20	1
Manganese	0.38		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:20	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0044		0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:50	1
Cobalt	0.00077		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:50	1

Client Sample Results

Client Sample ID: CH-CCR-M50-1021

Lab Sample ID: 550-173429-8
Date Collected: 10/23/21 10:37
Date Received: 11/01/21 15:48
Matrix: Water

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.9		0.50	0.26	mg/L			11/11/21 19:28	1
Dissolved Organic Carbon - Duplicate	2.9		0.50	0.26	mg/L			11/11/21 19:28	1
Dissolved Organic Carbon - Quad	2.9		0.50	0.26	mg/L			11/11/21 19:28	1

Client Sample ID: CH-CCR-M51-1021

Lab Sample ID: 550-173429-9
Date Collected: 10/23/21 12:41
Date Received: 11/01/21 15:48
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	8700	D2	400	100	mg/L			11/08/21 23:54	200
Fluoride	5.7	D1	0.80	0.095	mg/L			11/08/21 23:26	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 06:23	5
Sulfate	5600	D2	400	85	mg/L			11/08/21 23:54	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:21	1
Lithium	0.45		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:33	1
Boron	28		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:21	1
Calcium	840		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:21	1
Iron	0.039	E4	0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:21	1
Manganese	0.86		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:21	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:02	1
Arsenic	0.023	D1	0.0020	0.00099	mg/L		11/04/21 06:52	11/17/21 12:48	4
Barium	0.0081	D1	0.0010	0.00052	mg/L		11/04/21 06:52	11/16/21 18:20	2
Cadmium	0.00014		0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:02	1
Chromium	ND	D1 E8	0.0040	0.0017	mg/L		11/04/21 06:52	11/17/21 12:48	4
Cobalt	0.0015	D1 E4	0.0020	0.00025	mg/L		11/04/21 06:52	11/17/21 12:48	4
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:02	1
Molybdenum	0.14		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:02	1
Selenium	ND	D1 E8	0.0020	0.00030	mg/L		11/04/21 06:52	11/17/21 12:48	4
Thallium	0.00021		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:02	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.061		0.050	0.039	mg/L			11/10/21 08:56	1
Total Dissolved Solids	11000	D2 H3	200	200	mg/L			11/04/21 08:13	1
pH	7.3	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	15.4	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M51-1021

Lab Sample ID: 550-173429-10
Date Collected: 10/23/21 12:41
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.037	E4	0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:22	1
Manganese	0.89		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:22	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.022		0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:52	1
Cobalt	0.0012		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:52	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		0.50	0.26	mg/L			11/11/21 01:11	1
Dissolved Organic Carbon - Duplicate	1.7		0.50	0.26	mg/L			11/11/21 01:11	1
Dissolved Organic Carbon - Quad	1.7		0.50	0.26	mg/L			11/11/21 01:11	1

Client Sample ID: CH-CCR-M63-1021

Lab Sample ID: 550-173429-11
Date Collected: 10/24/21 08:30
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	360	D2	4.0	1.0	mg/L			11/09/21 01:18	2
Fluoride	0.25	D1 E4	0.80	0.095	mg/L			11/09/21 01:18	2
Sulfate	600	D2	400	85	mg/L			11/09/21 01:46	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:23	1
Lithium	0.067		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:37	1
Boron	0.23		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:23	1
Calcium	150		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:23	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000081	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:04	1
Arsenic	0.0031		0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 18:04	1
Barium	0.029		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:22	1
Cadmium	0.000034	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:04	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:04	1
Cobalt	0.0011		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:22	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:04	1
Molybdenum	0.0025		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:04	1
Selenium	0.00011	E4	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:22	1
Thallium	0.000045	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:04	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1500	H3	20	20	mg/L			11/10/21 06:13	1

Client Sample ID: CH-CCR-M63-1021

Lab Sample ID: 550-173429-11

Date Collected: 10/24/21 08:30
Date Received: 11/01/21 15:48

Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
pH	7.6	H5	1.7	1.7	SU			11/11/21 15:30	1
Temperature	16.4	H5	0.1	0.1	Degrees C			11/11/21 15:30	1

Client Sample ID: CH-CCR-M64-1021

Lab Sample ID: 550-173429-12

Date Collected: 10/22/21 08:55
Date Received: 11/01/21 15:48

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400	D2	400	100	mg/L			11/09/21 06:25	200
Fluoride	0.38	D1 E4	0.80	0.095	mg/L			11/09/21 05:57	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 08:15	5
Sulfate	3900	D2	400	85	mg/L			11/09/21 06:25	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:26	1
Lithium	0.28		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:41	1
Boron	1.0		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:26	1
Calcium	540		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:26	1
Iron	6.1		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:26	1
Manganese	2.3		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:26	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00013	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:13	1
Arsenic	0.00030	E4	0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:24	1
Barium	0.012		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:24	1
Cadmium	0.000036	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:13	1
Chromium	0.00050	E4	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:13	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:24	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:13	1
Molybdenum	0.0046		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:13	1
Selenium	0.00020	E4	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:24	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:13	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:00	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.77		0.050	0.039	mg/L			11/10/21 08:58	1
Total Dissolved Solids	11000	D2 H3	200	200	mg/L			11/04/21 08:13	1
pH	7.4	H5	1.7	1.7	SU			11/15/21 11:47	1
Temperature	8.0	H5	0.1	0.1	Degrees C			11/15/21 11:47	1

Client Sample ID: CH-CCR-M64-1021

Lab Sample ID: 550-173429-13
Date Collected: 10/22/21 08:55
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	6.6		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:25	1
Manganese	2.5		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:25	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0015		0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:54	1
Cobalt	0.000091	E4	0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:54	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	4.5	M2 R13	0.50	0.26	mg/L			11/11/21 02:21	1
Dissolved Organic Carbon - Duplicate	4.5	M2 R13	0.50	0.26	mg/L			11/11/21 02:21	1
Dissolved Organic Carbon - Quad	4.5	M2 R13	0.50	0.26	mg/L			11/11/21 02:21	1

Client Sample ID: CH-CCR-M65-1021

Lab Sample ID: 550-173429-14
Date Collected: 10/22/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3700	D2	400	100	mg/L			11/09/21 07:21	200
Fluoride	2.4	D1	0.80	0.095	mg/L			11/09/21 06:53	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 08:43	5
Sulfate	3100	D2	400	85	mg/L			11/09/21 07:21	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:29	1
Lithium	0.59		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:45	1
Boron	12		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:29	1
Calcium	770		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:29	1
Iron	1.3		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:29	1
Manganese	0.28		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:29	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000085	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:15	1
Arsenic	0.0024		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:30	1
Barium	0.022		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:30	1
Cadmium	0.000083	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:15	1
Chromium	0.0041		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:15	1
Cobalt	0.0025		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:30	1
Lead	0.00037	E4	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:15	1
Molybdenum	0.12		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:15	1
Selenium	0.00081		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:30	1
Thallium	0.000021	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:15	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:02	1

Client Sample ID: CH-CCR-M65-1021
Lab Sample ID: 550-173429-14
Date Collected: 10/22/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.061		0.050	0.039	mg/L			11/10/21 08:59	1
Total Dissolved Solids	9200	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.0	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.3	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-M65-1021
Lab Sample ID: 550-173429-15
Date Collected: 10/22/21 13:00
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.43		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:28	1
Manganese	0.24		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:28	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0026		0.00050	0.00025	mg/L		11/04/21 10:09	11/12/21 11:29	1
Cobalt	0.0023		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 22:01	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.8		0.50	0.26	mg/L			11/11/21 02:54	1
Dissolved Organic Carbon - Duplicate	2.8		0.50	0.26	mg/L			11/11/21 02:54	1
Dissolved Organic Carbon - Quad	2.8		0.50	0.26	mg/L			11/11/21 02:54	1

Client Sample ID: CH-CCR-M66-1021
Lab Sample ID: 550-173429-16
Date Collected: 10/24/21 10:08
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4400	D2	400	100	mg/L			11/09/21 08:17	200
Fluoride	1.3	D1	0.80	0.095	mg/L			11/09/21 07:49	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 15:14	5
Sulfate	3000	D2	400	85	mg/L			11/09/21 08:17	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:31	1
Lithium	0.51		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:49	1
Boron	1.7		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:31	1
Calcium	800		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:31	1
Iron	1.1		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:31	1
Manganese	3.5		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:31	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000094	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:17	1
Arsenic	0.00097		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:32	1
Barium	0.018		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:32	1
Cadmium	0.00030		0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:17	1

Client Sample ID: CH-CCR-M66-1021

Lab Sample ID: 550-173429-16
Matrix: Water

Date Collected: 10/24/21 10:08
Date Received: 11/01/21 15:48

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.012		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:17	1
Cobalt	0.0015		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:32	1
Lead	0.00029	E4	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:17	1
Molybdenum	0.016		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:17	1
Selenium	0.014		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:32	1
Thallium	0.00013		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:17	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:04	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.13		0.050	0.039	mg/L			11/10/21 09:01	1
Total Dissolved Solids	11000	D2 H3	100	100	mg/L			11/10/21 06:13	1
pH	7.4	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.1	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-M66-1021

Lab Sample ID: 550-173429-17
Matrix: Water

Date Collected: 10/24/21 10:08
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.26		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:30	1
Manganese	3.6		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:30	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012		0.00050	0.00025	mg/L		11/04/21 10:09	11/12/21 11:31	1
Cobalt	0.0012		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 22:03	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L			11/11/21 03:06	1
Dissolved Organic Carbon - Duplicate	2.3		0.50	0.26	mg/L			11/11/21 03:06	1
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L			11/11/21 03:06	1

Client Sample ID: CH-CCR-M67-1021

Lab Sample ID: 550-173429-18
Matrix: Water

Date Collected: 10/22/21 14:57
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	5700	D2	400	100	mg/L			11/09/21 05:29	200
Fluoride	0.90	D1	0.80	0.095	mg/L			11/09/21 04:05	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 16:38	5
Sulfate	1500	D2	400	85	mg/L			11/09/21 05:29	200

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M67-1021

Lab Sample ID: 550-173429-18

Date Collected: 10/22/21 14:57
Date Received: 11/01/21 15:48

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:39	1
Lithium	0.17		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 22:53	1
Boron	0.34		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:39	1
Calcium	1700	D2	4.0	0.026	mg/L		11/08/21 10:47	11/10/21 16:49	2
Iron	8.3		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:39	1
Manganese	4.9		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:39	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000051	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:19	1
Arsenic	0.015		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:34	1
Barium	0.025		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:34	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:19	1
Chromium	0.00051	E4	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:19	1
Cobalt	0.0038		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:34	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:19	1
Molybdenum	0.0051		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:19	1
Selenium	0.00043	E4	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:34	1
Thallium	0.000036	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:19	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:10	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.4		0.050	0.039	mg/L			11/10/21 09:02	1
Total Dissolved Solids	10000	D2 H3	100	100	mg/L			11/04/21 08:13	1
pH	7.1	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.0	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-M67-1021

Lab Sample ID: 550-173429-19

Date Collected: 10/22/21 14:57
Date Received: 11/01/21 15:48

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	8.5		0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:33	1
Manganese	5.0		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:33	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.018	B3	0.00050	0.00025	mg/L		11/04/21 10:09	11/11/21 18:39	1
Cobalt	0.0042		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 22:05	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.3		0.50	0.26	mg/L			11/11/21 03:18	1
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L			11/11/21 03:18	1
Dissolved Organic Carbon - Quad	2.3		0.50	0.26	mg/L			11/11/21 03:18	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD05-1021

Lab Sample ID: 550-173429-20
Date Collected: 10/23/21 09:48
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	760	D2	400	100	mg/L			11/09/21 23:59	200
Fluoride	0.53	D1 E4	0.80	0.095	mg/L			11/09/21 23:40	2
Sulfate	380	D2	100	21	mg/L			11/10/21 22:32	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:41	1
Lithium	0.026		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:13	1
Boron	0.16		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:41	1
Calcium	120		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:41	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000096	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:21	1
Arsenic	0.0038		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:36	1
Barium	0.022		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:36	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:21	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:21	1
Cobalt	0.00072		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:36	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:21	1
Molybdenum	0.0025		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:21	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:36	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:21	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:12	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1600	H3	20	20	mg/L			11/04/21 08:13	1
pH	7.7	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.0	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-W123R-1021

Lab Sample ID: 550-173429-21
Date Collected: 10/23/21 08:45
Matrix: Water
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6300	D2	400	100	mg/L			11/10/21 01:12	200
Fluoride	5.6	D1	0.80	0.095	mg/L			11/10/21 00:54	2
Nitrate Nitrite as N	0.17	D1 E4	0.25	0.11	mg/L			11/09/21 17:05	5
Sulfate	4200	D2	400	85	mg/L			11/10/21 01:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:44	1
Lithium	0.51		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:17	1
Boron	38		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:44	1
Calcium	720		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:44	1

Client Sample ID: CH-CCR-W123R-1021
Lab Sample ID: 550-173429-21
Date Collected: 10/23/21 08:45
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.058	E4	0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:44	1
Manganese	2.5		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:44	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00020	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:23	1
Arsenic	0.0036		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:38	1
Barium	0.011		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:38	1
Cadmium	0.000057	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:23	1
Chromium	0.0015		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:23	1
Cobalt	0.0035		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:38	1
Lead	0.00028	E4	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:23	1
Molybdenum	0.22		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:23	1
Selenium	0.00071		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:38	1
Thallium	0.00026		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:23	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:14	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	1.2		0.050	0.039	mg/L			11/10/21 09:04	1
Total Dissolved Solids	11000	D2 H3	200	200	mg/L			11/04/21 08:13	1
pH	7.6	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.6	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-W123R-1021
Lab Sample ID: 550-173429-22
Date Collected: 10/23/21 08:45
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.043	E4	0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:35	1
Manganese	2.7		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:35	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0047		0.00050	0.00025	mg/L		11/04/21 10:09	11/12/21 11:33	1
Cobalt	0.0039		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 22:07	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.0		0.50	0.26	mg/L			11/11/21 03:31	1
Dissolved Organic Carbon - Duplicate	2.0		0.50	0.26	mg/L			11/11/21 03:31	1
Dissolved Organic Carbon - Quad	2.0		0.50	0.26	mg/L			11/11/21 03:31	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W125-1021

Lab Sample ID: 550-173429-23
Matrix: Water
Date Collected: 10/23/21 09:48
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	750	D2	400	100	mg/L			11/10/21 01:49	200
Fluoride	0.56	D1 E4	0.80	0.095	mg/L			11/10/21 01:31	2
Sulfate	310	D2	100	21	mg/L			11/10/21 23:00	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:47	1
Lithium	0.026		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:21	1
Boron	0.18		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:47	1
Calcium	120		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000066	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:25	1
Arsenic	0.0051		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:40	1
Barium	0.022		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:40	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:25	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:25	1
Cobalt	0.0012		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:40	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:25	1
Molybdenum	0.0028		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:25	1
Selenium	0.00011	E4	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:40	1
Thallium	0.000015	E4	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:25	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:16	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	1700	H3	20	20	mg/L			11/04/21 08:13	1
pH	7.7	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.1	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-W126R-1021

Lab Sample ID: 550-173429-24
Matrix: Water
Date Collected: 10/23/21 11:20
Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	7400	D2	400	100	mg/L			11/10/21 02:26	200
Fluoride	5.6	D1	0.80	0.095	mg/L			11/10/21 02:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 17:33	5
Sulfate	5100	D2	400	85	mg/L			11/10/21 02:26	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:49	1
Lithium	0.62		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:25	1
Boron	46		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:49	1
Calcium	730		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:49	1

Client Sample ID: CH-CCR-W126R-1021
Lab Sample ID: 550-173429-24
Date Collected: 10/23/21 11:20
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.10	0.010	mg/L		11/08/21 10:47	11/09/21 15:49	1
Manganese	0.51		0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 15:49	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00014	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:27	1
Arsenic	0.00079		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:42	1
Barium	0.0094		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:42	1
Cadmium	0.000070	E4	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:27	1
Chromium	0.010		0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:27	1
Cobalt	0.0040		0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:42	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:27	1
Molybdenum	0.31		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:27	1
Selenium	0.0012		0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:42	1
Thallium	0.00013		0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:27	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.42		0.050	0.039	mg/L			11/10/21 09:05	1
Total Dissolved Solids	12000	D2 H3	200	200	mg/L			11/04/21 08:13	1
pH	7.5	H5	1.7	1.7	SU			11/13/21 12:00	1
Temperature	20.2	H5	0.1	0.1	Degrees C			11/13/21 12:00	1

Client Sample ID: CH-CCR-W126R-1021
Lab Sample ID: 550-173429-25
Date Collected: 10/23/21 11:20
Matrix: Water
Date Received: 11/01/21 15:48

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.071	E4	0.10	0.010	mg/L		11/05/21 08:39	11/08/21 16:38	1
Manganese	0.49		0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 16:38	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0025		0.00050	0.00025	mg/L		11/04/21 10:09	11/12/21 11:35	1
Cobalt	0.0041		0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 22:09	1

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.1		0.50	0.26	mg/L			11/11/21 03:43	1
Dissolved Organic Carbon - Duplicate	2.1		0.50	0.26	mg/L			11/11/21 03:43	1
Dissolved Organic Carbon - Quad	2.1		0.50	0.26	mg/L			11/11/21 03:43	1

Client Sample ID: CH-CCR-FAP-1021

Lab Sample ID: 550-173429-26

Date Collected: 10/31/21 13:25

Matrix: Water

Date Received: 11/01/21 15:48

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**54000**	**D2**	2000	520	mg/L			11/11/21 05:33	1000
Fluoride	**290**	**D2**	80	9.5	mg/L			11/10/21 03:03	200
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			11/09/21 18:01	5
Sulfate	**52000**	**D2**	2000	430	mg/L			11/11/21 05:33	1000

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.013**	**D1 E4**	0.020	0.0013	mg/L		11/08/21 10:47	11/10/21 09:06	20
Lithium	**7.9**		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:29	1
Boron	**680**	**D1**	1.0	0.051	mg/L		11/08/21 10:47	11/10/21 09:06	20
Calcium	**680**	**D1**	40	0.26	mg/L		11/08/21 10:47	11/10/21 09:06	20
Iron	**3.3**	**D1**	2.0	0.20	mg/L		11/08/21 10:47	11/10/21 09:06	20
Magnesium	**12000**	**D1**	40	0.89	mg/L		11/08/21 10:47	11/10/21 09:06	20
Manganese	**28**	**D1**	0.20	0.0038	mg/L		11/08/21 10:47	11/10/21 09:06	20
Potassium	**520**	**D1**	10	3.4	mg/L		11/08/21 10:47	11/10/21 09:06	20
Sodium	**32000**	**D2**	50	3.1	mg/L		11/08/21 10:47	11/10/21 09:17	100

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	**0.066**	**D1**	0.010	0.00043	mg/L		11/04/21 06:52	11/16/21 18:44	10
Arsenic	**0.63**	**D1**	0.0050	0.0025	mg/L		11/04/21 06:52	11/16/21 18:44	10
Barium	**0.14**	**D1**	0.0050	0.0026	mg/L		11/04/21 06:52	11/16/21 18:44	10
Cadmium	**0.00090**	**D1 E4**	0.0010	0.00023	mg/L		11/04/21 06:52	11/16/21 18:44	10
Chromium	**0.0099**	**D1 E4**	0.010	0.0043	mg/L		11/04/21 06:52	11/16/21 18:44	10
Cobalt	**0.019**	**D1**	0.0050	0.00063	mg/L		11/04/21 06:52	11/16/21 18:44	10
Lead	ND	D1 E8	0.0050	0.0022	mg/L		11/04/21 06:52	11/16/21 18:44	10
Molybdenum	**0.77**	**D1**	0.0050	0.0020	mg/L		11/04/21 06:52	11/16/21 18:44	10
Selenium	**0.071**	**D1**	0.0050	0.00074	mg/L		11/04/21 06:52	11/16/21 18:44	10
Thallium	**0.00051**	**D1 E4**	0.0010	0.00013	mg/L		11/04/21 06:52	11/16/21 18:44	10

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:20	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	**0.14**		0.050	0.039	mg/L			11/10/21 10:46	1
Alkalinity as CaCO3	**240**		6.0	6.0	mg/L			11/10/21 16:43	1
Bicarbonate Alkalinity as CaCO3	**240**		6.0	6.0	mg/L			11/10/21 16:43	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 16:43	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 16:43	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 16:43	1
Total Dissolved Solids	**160000**	**D2**	2000	2000	mg/L			11/03/21 08:11	1
pH	**5.8**	**H5**	1.7	1.7	SU			11/13/21 12:00	1
Temperature	**20.7**	**H5**	0.1	0.1	Degrees C			11/13/21 12:00	1
Total Organic Carbon	**76**	**D2**	5.0	2.6	mg/L			11/11/21 22:36	10

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FAP-1021

Lab Sample ID: 550-173429-27

Date Collected: 10/31/21 13:25
Date Received: 11/01/21 15:48

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	3.1	D1	0.50	0.050	mg/L		11/05/21 08:39	11/08/21 17:36	5
Manganese	25	D1	0.050	0.00096	mg/L		11/05/21 08:39	11/08/21 17:36	5

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.62	B3 D1	0.0020	0.00099	mg/L		11/04/21 10:09	11/11/21 18:45	4
Cobalt	0.020	D1	0.0020	0.00025	mg/L		11/04/21 10:09	11/11/21 18:45	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	74	D2	5.0	2.6	mg/L			11/11/21 03:53	10
Dissolved Organic Carbon - Duplicate	74	D2	5.0	2.6	mg/L			11/11/21 03:53	10
Dissolved Organic Carbon - Quad	74	D2	5.0	2.6	mg/L			11/11/21 03:53	10

Client Sample ID: CH-CCR-FD06-1021

Lab Sample ID: 550-173429-28

Date Collected: 10/23/21 15:33
Date Received: 11/01/21 15:48

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	1100	D2	400	100	mg/L			11/10/21 03:39	200
Fluoride	0.66	D1 E4	0.80	0.095	mg/L			11/10/21 03:21	2
Sulfate	410	D2	400	85	mg/L			11/10/21 03:39	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 15:54	1
Lithium	0.039		0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 23:33	1
Boron	0.43		0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 15:54	1
Calcium	83		2.0	0.013	mg/L		11/08/21 10:47	11/09/21 15:54	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000069	E4	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 18:31	1
Arsenic	0.00093		0.00050	0.00025	mg/L		11/04/21 06:52	11/16/21 18:46	1
Barium	0.021		0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 18:46	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 18:31	1
Chromium	0.00044	E4	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 18:31	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 18:46	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 18:31	1
Molybdenum	0.0032		0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 18:31	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 18:46	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 18:31	1

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 23:22	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-258036/1030
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/08/21 20:13	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/08/21 20:13	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/08/21 20:13	1

Lab Sample ID: LCS 550-258036/31
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.14		mg/L		103	90 - 110
Sulfate	20.0	21.1		mg/L		106	90 - 110

Lab Sample ID: LCSD 550-258036/32
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.6		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.15		mg/L		104	90 - 110	0	20
Sulfate	20.0	21.1		mg/L		105	90 - 110	0	20

Lab Sample ID: 550-173427-A-4 MS ^2
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.4	D1	8.00	9.75	D1	mg/L		104	80 - 120

Lab Sample ID: 550-173427-A-4 MS ^200
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1400	D2	4000	5610	D2	mg/L		106	80 - 120
Sulfate	400	D2	4000	4590	D2	mg/L		105	80 - 120

Lab Sample ID: 550-173427-A-4 MSD ^2
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.4	D1	8.00	9.80	D1	mg/L		105	80 - 120	0	20

Lab Sample ID: 550-173427-A-4 MSD ^200
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1400	D2	4000	5560	D2	mg/L		105	80 - 120	1	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173427-A-4 MSD ^200
Matrix: Water
Analysis Batch: 258036

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	400	D2	4000	4570	D2	mg/L		104	80 - 120	1	20

Lab Sample ID: MB 550-258037/1056
Matrix: Water
Analysis Batch: 258037

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/09/21 04:11	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/09/21 04:11	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/09/21 04:11	1

Lab Sample ID: LCS 550-258037/57
Matrix: Water
Analysis Batch: 258037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.6		mg/L		103	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	21.1		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-258037/58
Matrix: Water
Analysis Batch: 258037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.7		mg/L		103	90 - 110	0	20
Fluoride	4.00	4.18		mg/L		105	90 - 110	1	20
Sulfate	20.0	21.2		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 258037

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.76	E4 D1	8.00	9.09	D1	mg/L		104	80 - 120

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 258037

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	1100	D2	4000	5400	D2	mg/L		108	80 - 120

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 258037

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.76	E4 D1	8.00	9.12	D1	mg/L		105	80 - 120	0	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 258037

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	1100	D2	4000	5250	D2	mg/L		105	80 - 120	3	20

Lab Sample ID: MB 550-258040/1030
Matrix: Water
Analysis Batch: 258040

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/09/21 01:16	1

Lab Sample ID: LCS 550-258040/31
Matrix: Water
Analysis Batch: 258040

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	7.74		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-258040/32
Matrix: Water
Analysis Batch: 258040

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	7.74		mg/L		97	90 - 110	0	20

Lab Sample ID: 550-173411-B-69 MS ^5
Matrix: Water
Analysis Batch: 258040

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	35.9	D1	mg/L		90	80 - 120

Lab Sample ID: 550-173411-B-69 MSD ^5
Matrix: Water
Analysis Batch: 258040

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	35.8	D1	mg/L		90	80 - 120	0	20

Lab Sample ID: MB 550-258041/1034
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/09/21 02:42	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/09/21 02:42	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/09/21 02:42	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-258041/2
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/08/21 11:48	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/08/21 11:48	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/08/21 11:48	1

Lab Sample ID: LCS 550-258041/35
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	40.0	43.5		mg/L		109	90 - 110
Fluoride	8.00	8.11		mg/L		101	90 - 110
Sulfate	40.0	40.3		mg/L		101	90 - 110

Lab Sample ID: LCS 550-258041/5
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.4		mg/L		102	90 - 110
Fluoride	4.00	3.92		mg/L		98	90 - 110
Sulfate	20.0	19.7		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-258041/36
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	40.0	43.5		mg/L		109	90 - 110	0	20
Fluoride	8.00	8.10		mg/L		101	90 - 110	0	20
Sulfate	40.0	40.3		mg/L		101	90 - 110	0	20

Lab Sample ID: LCSD 550-258041/6
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.4		mg/L		102	90 - 110	0	20
Fluoride	4.00	3.90		mg/L		98	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173429-18 MS
Matrix: Water
Analysis Batch: 258041

Client Sample ID: CH-CCR-M67-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.90	D1	8.00	8.75	D1	mg/L		98	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173429-18 MSD
Matrix: Water
Analysis Batch: 258041

Client Sample ID: CH-CCR-M67-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.90	D1	8.00	8.80	D1	mg/L		99	80 - 120	1	20

Lab Sample ID: 550-173881-A-1 MS
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	300	E2 M3	20.0	301	E2 M3	mg/L		19	80 - 120
Fluoride	2.2		4.00	6.48		mg/L		106	80 - 120
Sulfate	35		20.0	56.3		mg/L		105	80 - 120

Lab Sample ID: 550-173881-A-1 MSD
Matrix: Water
Analysis Batch: 258041

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	300	E2 M3	20.0	300	E2 M3	mg/L		18	80 - 120	0	20
Fluoride	2.2		4.00	6.21		mg/L		99	80 - 120	4	20
Sulfate	35		20.0	54.7		mg/L		98	80 - 120	3	20

Lab Sample ID: MB 550-258215/1030
Matrix: Water
Analysis Batch: 258215

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/09/21 20:18	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/09/21 20:18	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/09/21 20:18	1

Lab Sample ID: LCS 550-258215/31
Matrix: Water
Analysis Batch: 258215

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	22.0	22.4		mg/L		102	90 - 110
Fluoride	4.40	4.57		mg/L		104	90 - 110
Sulfate	22.0	22.8		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-258215/32
Matrix: Water
Analysis Batch: 258215

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	22.0	22.4		mg/L		102	90 - 110	0	20
Fluoride	4.40	4.56		mg/L		104	90 - 110	0	20
Sulfate	22.0	22.8		mg/L		104	90 - 110	0	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-173429-3 MS | **Client Sample ID: CH-CCR-M44D-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258215

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	330	D2	200	541	D2	mg/L		103	80 - 120

Lab Sample ID: 550-173429-3 MSD | **Client Sample ID: CH-CCR-M44D-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258215

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	330	D2	200	543	D2	mg/L		104	80 - 120	0	20

Lab Sample ID: MB 550-258216/2 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258216

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			11/09/21 12:04	1

Lab Sample ID: LCS 550-258216/5 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258216

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.80	8.40		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-258216/6 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258216

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.80	8.41		mg/L		96	90 - 110	0	20

Lab Sample ID: 550-173429-16 MS | **Client Sample ID: CH-CCR-M66-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258216

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	43.3	D1	mg/L		108	80 - 120

Lab Sample ID: 550-173429-16 MSD | **Client Sample ID: CH-CCR-M66-1021**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258216

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	44.0	D1	mg/L		110	80 - 120	2	20

Lab Sample ID: MB 550-258361/2 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 258361

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/10/21 12:58	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-258361/2
Matrix: Water
Analysis Batch: 258361
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			11/10/21 12:58	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/10/21 12:58	1

Lab Sample ID: LCS 550-258361/5
Matrix: Water
Analysis Batch: 258361
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.1		mg/L		100	90 - 110
Fluoride	4.00	4.01		mg/L		100	90 - 110
Sulfate	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-258361/6
Matrix: Water
Analysis Batch: 258361
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.0		mg/L		100	90 - 110	0	20
Fluoride	4.00	4.01		mg/L		100	90 - 110	0	20
Sulfate	20.0	19.6		mg/L		98	90 - 110	0	20

Lab Sample ID: 550-173988-A-1 MS
Matrix: Water
Analysis Batch: 258361
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	440	E2 M3	20.0	438	E2 M3	mg/L		-10	80 - 120
Fluoride	0.11	E4	4.00	4.26		mg/L		104	80 - 120
Sulfate	230	E2 M3	20.0	243	E2 M3	mg/L		52	80 - 120

Lab Sample ID: 550-173988-A-1 MSD
Matrix: Water
Analysis Batch: 258361
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	440	E2 M3	20.0	438	E2 M3	mg/L		-10	80 - 120	0	20
Fluoride	0.11	E4	4.00	4.33		mg/L		106	80 - 120	2	20
Sulfate	230	E2 M3	20.0	243	E2 M3	mg/L		53	80 - 120	0	20

Lab Sample ID: MB 550-258364/1030
Matrix: Water
Analysis Batch: 258364
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			11/10/21 20:58	1
Fluoride	ND	E8	0.40	0.047	mg/L			11/10/21 20:58	1
Sulfate	ND	E8	2.0	0.43	mg/L			11/10/21 20:58	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-258364/31
Matrix: Water
Analysis Batch: 258364

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	20.9		mg/L		104	90 - 110
Fluoride	4.00	4.26		mg/L		106	90 - 110
Sulfate	20.0	21.3		mg/L		107	90 - 110

Lab Sample ID: LCSD 550-258364/32
Matrix: Water
Analysis Batch: 258364

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	20.9		mg/L		104	90 - 110	0	20
Fluoride	4.00	4.27		mg/L		107	90 - 110	0	20
Sulfate	20.0	21.3		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-174045-B-2 MS
Matrix: Water
Analysis Batch: 258364

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	400	E2 M3	20.0	395	E2 M3	mg/L		-9	80 - 120
Fluoride	2.6		4.00	6.96		mg/L		108	80 - 120
Sulfate	250	E2 M3	20.0	258	E2 M3	mg/L		20	80 - 120

Lab Sample ID: 550-174045-B-2 MSD
Matrix: Water
Analysis Batch: 258364

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	400	E2 M3	20.0	394	E2 M3	mg/L		-12	80 - 120	0	20
Fluoride	2.6		4.00	6.96		mg/L		108	80 - 120	0	20
Sulfate	250	E2 M3	20.0	258	E2 M3	mg/L		19	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-257829/1-A
Matrix: Water
Analysis Batch: 258058

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257829

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		11/05/21 08:39	11/08/21 15:41	1
Manganese	0.000470	E4	0.010	0.00019	mg/L		11/05/21 08:39	11/08/21 15:41	1

Lab Sample ID: LCS 550-257829/2-A
Matrix: Water
Analysis Batch: 258058

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257829

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	20.0	19.3		mg/L		97	85 - 115
Manganese	1.00	0.993		mg/L		99	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-257829/3-A
Matrix: Water
Analysis Batch: 258058

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257829

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	20.0	19.4		mg/L		97	85 - 115	0	20
Manganese	1.00	0.986		mg/L		99	85 - 115	1	20

Lab Sample ID: MB 550-257986/1-A
Matrix: Water
Analysis Batch: 258167

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257986

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		11/08/21 10:47	11/09/21 14:55	1
Boron	ND	E8	0.050	0.0025	mg/L		11/08/21 10:47	11/09/21 14:55	1
Calcium	ND	E8	2.0	0.013	mg/L		11/08/21 10:47	11/09/21 14:55	1
Iron	ND	E8	0.10	0.010	mg/L		11/08/21 10:47	11/09/21 14:55	1
Magnesium	ND	E8	2.0	0.044	mg/L		11/08/21 10:47	11/09/21 14:55	1
Manganese	ND	E8	0.010	0.00019	mg/L		11/08/21 10:47	11/09/21 14:55	1
Potassium	ND	E8	0.50	0.17	mg/L		11/08/21 10:47	11/09/21 14:55	1
Sodium	ND	E8	0.50	0.031	mg/L		11/08/21 10:47	11/09/21 14:55	1

Lab Sample ID: LCS 550-257986/2-A
Matrix: Water
Analysis Batch: 258167

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257986

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.995		mg/L		100	85 - 115
Boron	1.00	0.956		mg/L		96	85 - 115
Calcium	21.0	20.8		mg/L		99	85 - 115
Iron	1.00	0.994		mg/L		99	85 - 115
Magnesium	21.0	21.3		mg/L		101	85 - 115
Manganese	1.00	0.976		mg/L		98	85 - 115
Potassium	20.0	19.8		mg/L		99	85 - 115
Sodium	20.0	19.8		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-257986/3-A
Matrix: Water
Analysis Batch: 258167

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257986

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.986		mg/L		99	85 - 115	1	20
Boron	1.00	0.976		mg/L		98	85 - 115	2	20
Calcium	21.0	20.7		mg/L		98	85 - 115	1	20
Iron	1.00	0.979		mg/L		98	85 - 115	2	20
Magnesium	21.0	21.1		mg/L		101	85 - 115	1	20
Manganese	1.00	0.995		mg/L		100	85 - 115	2	20
Potassium	20.0	19.5		mg/L		98	85 - 115	1	20
Sodium	20.0	19.5		mg/L		98	85 - 115	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 258167

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257986

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130
Boron	0.24		1.00	1.21		mg/L		97	70 - 130
Calcium	84		21.0	101	M3	mg/L		79	70 - 130

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 258167

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257986

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.04		mg/L		104	70 - 130	2	20
Boron	0.24		1.00	1.22		mg/L		98	70 - 130	1	20
Calcium	84		21.0	103	M3	mg/L		89	70 - 130	2	20

Lab Sample ID: MB 280-556663/1-A
Matrix: Water
Analysis Batch: 557055

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 556663

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/10/21 07:45	11/10/21 21:20	1

Lab Sample ID: LCS 280-556663/2-A
Matrix: Water
Analysis Batch: 557055

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 556663

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	0.989		mg/L		99	90 - 112

Lab Sample ID: LCSD 280-556663/3-A
Matrix: Water
Analysis Batch: 557055

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 556663

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	1.00	0.995		mg/L		100	90 - 112	1	20

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 557055

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 556663

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.041		1.00	1.06		mg/L		102	70 - 130

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 557055

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 556663

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.041		1.00	1.07		mg/L		103	70 - 130	1	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-173425-B-1-A MS
Matrix: Water
Analysis Batch: 258058

Client Sample ID: Matrix Spike
Prep Type: Dissolved
Prep Batch: 257829

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.036	E4	20.0	19.4		mg/L		97	70 - 130
Manganese	0.0019	E4	1.00	0.965		mg/L		96	70 - 130

Lab Sample ID: 550-173425-B-1-B MSD
Matrix: Water
Analysis Batch: 258058

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved
Prep Batch: 257829

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.036	E4	20.0	20.0		mg/L		100	70 - 130	3	20
Manganese	0.0019	E4	1.00	0.969		mg/L		97	70 - 130	0	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-257695/1-A
Matrix: Water
Analysis Batch: 258668

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257695

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	E8	0.0010	0.000043	mg/L		11/04/21 06:52	11/15/21 17:42	1
Arsenic	0.000495	E4	0.00050	0.00025	mg/L		11/04/21 06:52	11/15/21 17:42	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/04/21 06:52	11/15/21 17:42	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/04/21 06:52	11/15/21 17:42	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/04/21 06:52	11/15/21 17:42	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		11/04/21 06:52	11/15/21 17:42	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/04/21 06:52	11/15/21 17:42	1

Lab Sample ID: MB 550-257695/1-A
Matrix: Water
Analysis Batch: 258808

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257695

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND	E8	0.00050	0.00026	mg/L		11/04/21 06:52	11/16/21 17:59	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 06:52	11/16/21 17:59	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/04/21 06:52	11/16/21 17:59	1

Lab Sample ID: LCS 550-257695/2-A
Matrix: Water
Analysis Batch: 258668

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.105		mg/L		105	85 - 115
Arsenic	0.100	0.104		mg/L		104	85 - 115
Cadmium	0.100	0.104		mg/L		104	85 - 115
Chromium	0.100	0.105		mg/L		105	85 - 115
Lead	0.100	0.104		mg/L		104	85 - 115
Molybdenum	0.100	0.104		mg/L		104	85 - 115
Thallium	0.100	0.0974		mg/L		97	85 - 115

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-257695/2-A
Matrix: Water
Analysis Batch: 258808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.100	0.112		mg/L		112	85 - 115
Cobalt	0.100	0.0917		mg/L		92	85 - 115
Selenium	0.100	0.0989		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-257695/3-A
Matrix: Water
Analysis Batch: 258668

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.106		mg/L		106	85 - 115	1	20
Arsenic	0.100	0.104		mg/L		104	85 - 115	0	20
Cadmium	0.100	0.105		mg/L		105	85 - 115	1	20
Chromium	0.100	0.104		mg/L		104	85 - 115	1	20
Lead	0.100	0.108		mg/L		108	85 - 115	4	20
Molybdenum	0.100	0.105		mg/L		105	85 - 115	0	20
Thallium	0.100	0.104		mg/L		104	85 - 115	7	20

Lab Sample ID: LCSD 550-257695/3-A
Matrix: Water
Analysis Batch: 258808

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.100	0.110		mg/L		110	85 - 115	2	20
Cobalt	0.100	0.0863		mg/L		86	85 - 115	6	20
Selenium	0.100	0.0949		mg/L		95	85 - 115	4	20

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 258668

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.000071	E4	0.100	0.109		mg/L		108	70 - 130
Arsenic	0.0016		0.100	0.107		mg/L		105	70 - 130
Cadmium	0.000043	E4	0.100	0.100		mg/L		100	70 - 130
Chromium	ND	E8	0.100	0.0992		mg/L		99	70 - 130
Lead	ND	E8	0.100	0.0987		mg/L		99	70 - 130
Molybdenum	0.0021		0.100	0.109		mg/L		107	70 - 130
Thallium	0.00044		0.100	0.101		mg/L		100	70 - 130

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 258808

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.020		0.100	0.136		mg/L		116	70 - 130
Cobalt	ND	E8	0.100	0.0921		mg/L		92	70 - 130
Selenium	0.00019	E4	0.100	0.112		mg/L		112	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 258668

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.000071	E4	0.100	0.108		mg/L		108	70 - 130	0	20
Arsenic	0.0016		0.100	0.107		mg/L		105	70 - 130	0	20
Cadmium	0.000043	E4	0.100	0.102		mg/L		102	70 - 130	1	20
Chromium	ND	E8	0.100	0.101		mg/L		101	70 - 130	2	20
Lead	ND	E8	0.100	0.0999		mg/L		100	70 - 130	1	20
Molybdenum	0.0021		0.100	0.110		mg/L		108	70 - 130	1	20
Thallium	0.00044		0.100	0.0941		mg/L		94	70 - 130	7	20

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 258808

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257695

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.020		0.100	0.135		mg/L		115	70 - 130	1	20
Cobalt	ND	E8	0.100	0.0907		mg/L		91	70 - 130	2	20
Selenium	0.00019	E4	0.100	0.113		mg/L		112	70 - 130	1	20

Lab Sample ID: MB 550-257711/1-A
Matrix: Water
Analysis Batch: 258320

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		11/04/21 10:09	11/10/21 21:35	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/04/21 10:09	11/10/21 21:35	1

Lab Sample ID: LCS 550-257711/2-A
Matrix: Water
Analysis Batch: 258320

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.102		mg/L		102	85 - 115
Cobalt	0.100	0.0972		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-257711/3-A
Matrix: Water
Analysis Batch: 258320

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257711

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.0996		mg/L		100	85 - 115	2	20
Cobalt	0.100	0.0949		mg/L		95	85 - 115	2	20

Lab Sample ID: 550-173429-2 MS
Matrix: Water
Analysis Batch: 258320

Client Sample ID: CH-CCR-M43-1021
Prep Type: Dissolved
Prep Batch: 257711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0024		0.100	0.105		mg/L		103	70 - 130
Cobalt	0.00050		0.100	0.0922		mg/L		92	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-173429-2 MSD
Matrix: Water
Analysis Batch: 258320

Client Sample ID: CH-CCR-M43-1021
Prep Type: Dissolved
Prep Batch: 257711

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0024		0.100	0.108		mg/L		105	70 - 130	2	20
Cobalt	0.00050		0.100	0.0924		mg/L		92	70 - 130	0	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-257545/1-A
Matrix: Water
Analysis Batch: 257652

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 257545

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000070	mg/L		11/02/21 14:25	11/02/21 22:36	1

Lab Sample ID: LCS 550-257545/2-A
Matrix: Water
Analysis Batch: 257652

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 257545

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00432		mg/L		86	85 - 115

Lab Sample ID: LCSD 550-257545/3-A
Matrix: Water
Analysis Batch: 257652

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 257545

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00429		mg/L		86	85 - 115	1	20

Lab Sample ID: 550-173429-3 MS
Matrix: Water
Analysis Batch: 257652

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257545

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00544		mg/L		109	70 - 130

Lab Sample ID: 550-173429-3 MSD
Matrix: Water
Analysis Batch: 257652

Client Sample ID: CH-CCR-M44D-1021
Prep Type: Total/NA
Prep Batch: 257545

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00513		mg/L		103	70 - 130	6	20

Method: 350.1 - Nitrogen, Ammonia (Low Level)

Lab Sample ID: MB 550-258207/21
Matrix: Water
Analysis Batch: 258207

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.050	0.039	mg/L			11/10/21 08:44	1

Method: 350.1 - Nitrogen, Ammonia (Low Level) (Continued)

Lab Sample ID: LCS 550-258207/22
Matrix: Water
Analysis Batch: 258207

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia			1.00	0.930		mg/L		93	90 - 110		

Lab Sample ID: LCSD 550-258207/23
Matrix: Water
Analysis Batch: 258207

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia			1.00	0.924		mg/L		92	90 - 110	1	20

Lab Sample ID: 550-173429-1 MS
Matrix: Water
Analysis Batch: 258207

Client Sample ID: CH-CCR-M43-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	0.35	M1	1.00	1.50	M1	mg/L		115	90 - 110		

Lab Sample ID: 550-173429-1 MSD
Matrix: Water
Analysis Batch: 258207

Client Sample ID: CH-CCR-M43-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	0.35	M1	1.00	1.46	M1	mg/L		111	90 - 110	3	20

Lab Sample ID: 550-173762-F-1 MS
Matrix: Water
Analysis Batch: 258207

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Ammonia	1.6	M1	1.00	2.77	E2 M1	mg/L		119	90 - 110		

Lab Sample ID: 550-173762-F-1 MSD
Matrix: Water
Analysis Batch: 258207

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.6	M1	1.00	2.75	E2 M1	mg/L		117	90 - 110	1	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-258292/34
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 15:24	1

Method: SM 2320B - Alkalinity (Continued)

Lab Sample ID: MB 550-258292/7
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			11/10/21 12:02	1

Lab Sample ID: LCS 550-258292/33
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	237		mg/L		95	90 - 110

Lab Sample ID: LCSD 550-258292/45
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	235		mg/L		94	90 - 110	1	20

Lab Sample ID: 550-173411-E-71 DU
Matrix: Water
Analysis Batch: 258292

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	90		92.0		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	90		92.0		mg/L		2	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-257595/1
Matrix: Water
Analysis Batch: 257595

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/03/21 08:11	1

Lab Sample ID: LCS 550-257595/2
Matrix: Water
Analysis Batch: 257595

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	986		mg/L		99	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-257595/3
Matrix: Water
Analysis Batch: 257595

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	1000		mg/L		100	90 - 110	1	10

Lab Sample ID: 550-173478-A-1 DU
Matrix: Water
Analysis Batch: 257595

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	1300			1260		mg/L				0.2	10

Lab Sample ID: MB 550-257698/1
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/04/21 08:13	1

Lab Sample ID: LCS 550-257698/2
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1010		mg/L		101	90 - 110		

Lab Sample ID: LCSD 550-257698/3
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	980		mg/L		98	90 - 110	3	10

Lab Sample ID: 550-173411-A-47 DU
Matrix: Water
Analysis Batch: 257698

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	3600	D2		3740	D2	mg/L				3	10

Lab Sample ID: 550-173429-12 DU
Matrix: Water
Analysis Batch: 257698

Client Sample ID: CH-CCR-M64-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	11000	H3 D2		11400	D2	mg/L				2	10

Lab Sample ID: MB 550-258146/1
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			11/10/21 06:13	1

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: LCS 550-258146/2
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Dissolved Solids			1000	1020		mg/L		102	90 - 110		

Lab Sample ID: LCSD 550-258146/3
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	976		mg/L		98	90 - 110	5	10

Lab Sample ID: 550-173427-A-1 DU
Matrix: Water
Analysis Batch: 258146

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	2700	D2		2930	D2	mg/L				7	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-258399/37
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		100.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-258399/49
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		100.9	98.5 - 101.5		

Lab Sample ID: 550-173427-A-3 DU
Matrix: Water
Analysis Batch: 258399

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.6	H5		7.6	H5	SU				0.3	5
Temperature	14.2	H5		14.3	H5	Degrees C				0.7	

Lab Sample ID: LCSSRM 550-258556/1
Matrix: Water
Analysis Batch: 258556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-258556/13
Matrix: Water
Analysis Batch: 258556

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.6	98.5 - 101.5

Lab Sample ID: 550-173429-21 DU
Matrix: Water
Analysis Batch: 258556

Client Sample ID: CH-CCR-W123R-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.6	H5	7.6	H5	SU		0.3	5
Temperature	20.6	H5	20.7	H5	Degrees C		0.5	

Lab Sample ID: LCSSRM 550-258721/1
Matrix: Water
Analysis Batch: 258721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.9	98.5 - 101.5

Lab Sample ID: LCSSRM 550-258721/12
Matrix: Water
Analysis Batch: 258721

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		99.7	98.5 - 101.5

Lab Sample ID: 550-173429-12 DU
Matrix: Water
Analysis Batch: 258721

Client Sample ID: CH-CCR-M64-1021
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.4	H5	7.4	H5	SU		0.1	5
Temperature	8.0	H5	8.0	H5	Degrees C		0	

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-258433/22
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	0.322	E4	0.50	0.26	mg/L			11/11/21 20:03	1

Lab Sample ID: LCS 550-258433/23
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	18.3		mg/L		92	90 - 110

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 550-258433/23
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon - Duplicates			20.0	18.3		mg/L		92	90 - 110		
Total Organic Carbon - Quad			20.0	18.3		mg/L		92	90 - 110		

Lab Sample ID: LCSD 550-258433/24
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon			20.0	18.8		mg/L		94	90 - 110	2	20
Total Organic Carbon - Duplicates			20.0	18.8		mg/L		94	90 - 110	2	20
Total Organic Carbon - Quad			20.0	18.8		mg/L		94	90 - 110	2	20

Lab Sample ID: 550-173366-B-4 MS ^10
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Total Organic Carbon	59	D2	200	245	D2	mg/L		93	90 - 110		
Total Organic Carbon - Duplicates	59	D2	200	245	D2	mg/L		93	90 - 110		
Total Organic Carbon - Quad	59	D2	200	245	D2	mg/L		93	90 - 110		

Lab Sample ID: 550-173366-B-4 MSD ^10
Matrix: Water
Analysis Batch: 258433

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	59	D2	200	253	D2	mg/L		97	90 - 110	3	20
Total Organic Carbon - Duplicates	59	D2	200	253	D2	mg/L		97	90 - 110	3	20
Total Organic Carbon - Quad	59	D2	200	253	D2	mg/L		97	90 - 110	3	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-258332/34
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			11/10/21 20:12	1

Lab Sample ID: MB 550-258332/63
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			11/11/21 01:47	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-258332/63
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			11/11/21 01:47	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			11/11/21 01:47	1

Lab Sample ID: LCS 550-258332/35
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.9		mg/L		94	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.9		mg/L		94	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.9		mg/L		94	90 - 110

Lab Sample ID: LCS 550-258332/64
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.5		mg/L		92	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.5		mg/L		92	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.5		mg/L		92	90 - 110

Lab Sample ID: LCSD 550-258332/36
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.2		mg/L		96	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	20.0	19.2		mg/L		96	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	19.2		mg/L		96	90 - 110	2	20

Lab Sample ID: LCSD 550-258332/65
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	18.4		mg/L		92	90 - 110	0	20
Dissolved Organic Carbon - Duplicate	20.0	18.4		mg/L		92	90 - 110	0	20
Dissolved Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110	0	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-173411-B-42 MS
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.2	M2 R13	20.0	18.3	M2 R13	mg/L		86	90 - 110
Dissolved Organic Carbon - Duplicate	1.2	M2 R13	20.0	18.3	M2 R13	mg/L		86	90 - 110
Dissolved Organic Carbon - Quad	1.2	M2 R13	20.0	18.3	M2 R13	mg/L		86	90 - 110

Lab Sample ID: 550-173411-C-42 MSD
Matrix: Water
Analysis Batch: 258332

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2	M2 R13	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20
Dissolved Organic Carbon - Duplicate	1.2	M2 R13	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20
Dissolved Organic Carbon - Quad	1.2	M2 R13	20.0	14.9	M2 R13	mg/L		69	90 - 110	21	20

Lab Sample ID: 550-173429-13 MS
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-M64-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	4.5	R13 M2	20.0	15.1	M2 R13	mg/L		53	90 - 110
Dissolved Organic Carbon - Duplicate	4.5	R13 M2	20.0	15.1	M2 R13	mg/L		53	90 - 110
Dissolved Organic Carbon - Quad	4.5	R13 M2	20.0	15.1	M2 R13	mg/L		53	90 - 110

Lab Sample ID: 550-173429-13 MSD
Matrix: Water
Analysis Batch: 258332

Client Sample ID: CH-CCR-M64-1021
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	4.5	R13 M2	20.0	23.1	R13	mg/L		93	90 - 110	42	20
Dissolved Organic Carbon - Duplicate	4.5	R13 M2	20.0	23.1	R13	mg/L		93	90 - 110	42	20
Dissolved Organic Carbon - Quad	4.5	R13 M2	20.0	23.1	R13	mg/L		93	90 - 110	42	20

Lab Sample ID: MB 550-258432/5
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1
Dissolved Organic Carbon - Duplicate	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1
Dissolved Organic Carbon - Quad	0.357	E4	0.50	0.26	mg/L			11/11/21 16:54	1

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCS 550-258432/6
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.7		mg/L		93	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.7		mg/L		93	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.7		mg/L		93	90 - 110

Lab Sample ID: LCSD 550-258432/7
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.2		mg/L		96	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	20.0	19.2		mg/L		96	90 - 110	3	20
Dissolved Organic Carbon - Quad	20.0	19.2		mg/L		96	90 - 110	3	20

Lab Sample ID: 550-173411-B-4 MS
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.2	M2	20.0	19.1		mg/L		90	90 - 110
Dissolved Organic Carbon - Duplicate	1.2	M2	20.0	19.1		mg/L		90	90 - 110
Dissolved Organic Carbon - Quad	1.2	M2	20.0	19.1		mg/L		90	90 - 110

Lab Sample ID: 550-173411-D-4 MSD
Matrix: Water
Analysis Batch: 258432

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20
Dissolved Organic Carbon - Quad	1.2	M2	20.0	18.6	M2	mg/L		87	90 - 110	2	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

HPLC/IC

Analysis Batch: 258036

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	300.0	
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	300.0	
MB 550-258036/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258036/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258036/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173427-A-4 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-173427-A-4 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-173427-A-4 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-173427-A-4 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 258037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	300.0	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	300.0	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	300.0	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	300.0	
MB 550-258037/1056	Method Blank	Total/NA	Water	300.0	
LCS 550-258037/57	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258037/58	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	300.0	

Analysis Batch: 258040

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	300.0	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	300.0	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	300.0	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	300.0	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	300.0	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	300.0	
MB 550-258040/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258040/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258040/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173411-B-69 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-173411-B-69 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 258041

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	300.0	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	300.0	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	300.0	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	300.0	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	300.0	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	300.0	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	300.0	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	300.0	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 258041 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	300.0	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	300.0	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	300.0	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	300.0	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	300.0	
MB 550-258041/1034	Method Blank	Total/NA	Water	300.0	
MB 550-258041/2	Method Blank	Total/NA	Water	300.0	
LCS 550-258041/35	Lab Control Sample	Total/NA	Water	300.0	
LCS 550-258041/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258041/36	Lab Control Sample Dup	Total/NA	Water	300.0	
LCSD 550-258041/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173429-18 MS	CH-CCR-M67-1021	Total/NA	Water	300.0	
550-173429-18 MSD	CH-CCR-M67-1021	Total/NA	Water	300.0	
550-173881-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173881-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 258215

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	300.0	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	300.0	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	300.0	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	300.0	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	300.0	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	300.0	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	300.0	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	300.0	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	300.0	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	300.0	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	300.0	
MB 550-258215/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258215/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258215/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	300.0	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	300.0	

Analysis Batch: 258216

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	300.0	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	300.0	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	300.0	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	300.0	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	300.0	
MB 550-258216/2	Method Blank	Total/NA	Water	300.0	
LCS 550-258216/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258216/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173429-16 MS	CH-CCR-M66-1021	Total/NA	Water	300.0	
550-173429-16 MSD	CH-CCR-M66-1021	Total/NA	Water	300.0	

HPLC/IC

Analysis Batch: 258361

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	300.0	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	300.0	
MB 550-258361/2	Method Blank	Total/NA	Water	300.0	
LCS 550-258361/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258361/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-173988-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-173988-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 258364

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	300.0	
MB 550-258364/1030	Method Blank	Total/NA	Water	300.0	
LCS 550-258364/31	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-258364/32	Lab Control Sample Dup	Total/NA	Water	300.0	
550-174045-B-2 MS	Matrix Spike	Total/NA	Water	300.0	
550-174045-B-2 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 257545

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	245.1	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	245.1	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	245.1	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	245.1	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	245.1	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	245.1	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	245.1	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	245.1	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	245.1	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	245.1	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	245.1	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	245.1	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	245.1	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	245.1	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	245.1	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	245.1	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	245.1	
MB 550-257545/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-257545/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-257545/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	245.1	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	245.1	

Analysis Batch: 257652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	245.1	257545
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	245.1	257545
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	245.1	257545
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	245.1	257545
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	245.1	257545

Metals (Continued)

Analysis Batch: 257652 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	245.1	257545
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	245.1	257545
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	245.1	257545
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	245.1	257545
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	245.1	257545
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	245.1	257545
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	245.1	257545
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	245.1	257545
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	245.1	257545
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	245.1	257545
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	245.1	257545
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	245.1	257545
MB 550-257545/1-A	Method Blank	Total/NA	Water	245.1	257545
LCS 550-257545/2-A	Lab Control Sample	Total/NA	Water	245.1	257545
LCSD 550-257545/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	257545
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	245.1	257545
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	245.1	257545

Prep Batch: 257695

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.8	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.8	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.8	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.8	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.8	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.8	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.8	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.8	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.8	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.8	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.8	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.8	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.8	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.8	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.8	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.8	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.8	
MB 550-257695/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257695/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257695/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.8	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.8	

Prep Batch: 257711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-2	CH-CCR-M43-1021	Dissolved	Water	200.8	
550-173429-6	CH-CCR-M46-1021	Dissolved	Water	200.8	
550-173429-8	CH-CCR-M50-1021	Dissolved	Water	200.8	
550-173429-10	CH-CCR-M51-1021	Dissolved	Water	200.8	
550-173429-13	CH-CCR-M64-1021	Dissolved	Water	200.8	
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 257711 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	200.8	
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	200.8	
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	200.8	
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	200.8	
550-173429-27	CH-CCR-FAP-1021	Dissolved	Water	200.8	
MB 550-257711/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-257711/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-257711/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-173429-2 MS	CH-CCR-M43-1021	Dissolved	Water	200.8	
550-173429-2 MSD	CH-CCR-M43-1021	Dissolved	Water	200.8	

Prep Batch: 257829

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-2	CH-CCR-M43-1021	Dissolved	Water	200.7	
550-173429-6	CH-CCR-M46-1021	Dissolved	Water	200.7	
550-173429-8	CH-CCR-M50-1021	Dissolved	Water	200.7	
550-173429-10	CH-CCR-M51-1021	Dissolved	Water	200.7	
550-173429-13	CH-CCR-M64-1021	Dissolved	Water	200.7	
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	200.7	
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	200.7	
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	200.7	
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	200.7	
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	200.7	
550-173429-27	CH-CCR-FAP-1021	Dissolved	Water	200.7	
MB 550-257829/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257829/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-257829/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173425-B-1-A MS	Matrix Spike	Dissolved	Water	200.7	
550-173425-B-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7	

Prep Batch: 257986

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.7	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.7	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.7	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.7	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.7	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.7	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.7	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.7	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.7	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.7	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.7	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.7	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.7	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.7	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.7	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.7	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.7	
MB 550-257986/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-257986/2-A	Lab Control Sample	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 257986 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCSD 550-257986/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.7	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.7	

Analysis Batch: 258058

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-2	CH-CCR-M43-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-6	CH-CCR-M46-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-8	CH-CCR-M50-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-10	CH-CCR-M51-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-13	CH-CCR-M64-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	200.7 Rev 4.4	257829
550-173429-27	CH-CCR-FAP-1021	Dissolved	Water	200.7 Rev 4.4	257829
MB 550-257829/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257829
LCS 550-257829/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257829
LCSD 550-257829/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257829
550-173425-B-1-A MS	Matrix Spike	Dissolved	Water	200.7 Rev 4.4	257829
550-173425-B-1-B MSD	Matrix Spike Duplicate	Dissolved	Water	200.7 Rev 4.4	257829

Analysis Batch: 258167

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.7 Rev 4.4	257986
MB 550-257986/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	257986
LCS 550-257986/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	257986
LCSD 550-257986/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	257986

Metals

Analysis Batch: 258320

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-2	CH-CCR-M43-1021	Dissolved	Water	200.8 LL	257711
550-173429-6	CH-CCR-M46-1021	Dissolved	Water	200.8 LL	257711
550-173429-8	CH-CCR-M50-1021	Dissolved	Water	200.8 LL	257711
550-173429-10	CH-CCR-M51-1021	Dissolved	Water	200.8 LL	257711
550-173429-13	CH-CCR-M64-1021	Dissolved	Water	200.8 LL	257711
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	200.8 LL	257711
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	200.8 LL	257711
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	200.8 LL	257711
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	200.8 LL	257711
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	200.8 LL	257711
MB 550-257711/1-A	Method Blank	Total/NA	Water	200.8 LL	257711
LCS 550-257711/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257711
LCSD 550-257711/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257711
550-173429-2 MS	CH-CCR-M43-1021	Dissolved	Water	200.8 LL	257711
550-173429-2 MSD	CH-CCR-M43-1021	Dissolved	Water	200.8 LL	257711

Analysis Batch: 258344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.7 Rev 4.4	257986
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.7 Rev 4.4	257986

Analysis Batch: 258422

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	200.8 LL	257711
550-173429-27	CH-CCR-FAP-1021	Dissolved	Water	200.8 LL	257711

Analysis Batch: 258461

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	200.8 LL	257711
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	200.8 LL	257711
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	200.8 LL	257711
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	200.8 LL	257711

Analysis Batch: 258668

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.8 LL	257695
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.8 LL	257695
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.8 LL	257695
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.8 LL	257695
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.8 LL	257695
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.8 LL	257695
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.8 LL	257695
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.8 LL	257695
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.8 LL	257695
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.8 LL	257695
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.8 LL	257695
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.8 LL	257695
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.8 LL	257695
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.8 LL	257695
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.8 LL	257695

Metals (Continued)

Analysis Batch: 258668 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-257695/1-A	Method Blank	Total/NA	Water	200.8 LL	257695
LCS 550-257695/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257695
LCSD 550-257695/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257695
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695

Analysis Batch: 258808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.8 LL	257695
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.8 LL	257695
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.8 LL	257695
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.8 LL	257695
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.8 LL	257695
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.8 LL	257695
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.8 LL	257695
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.8 LL	257695
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.8 LL	257695
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.8 LL	257695
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.8 LL	257695
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.8 LL	257695
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.8 LL	257695
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.8 LL	257695
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.8 LL	257695
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.8 LL	257695
MB 550-257695/1-A	Method Blank	Total/NA	Water	200.8 LL	257695
LCS 550-257695/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	257695
LCSD 550-257695/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	257695
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.8 LL	257695

Analysis Batch: 258891

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.8 LL	257695

Prep Batch: 556663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.7	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.7	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.7	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.7	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.7	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.7	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.7	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.7	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.7	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.7	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.7	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.7	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.7	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 556663 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.7	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.7	
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.7	
MB 280-556663/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-556663/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-556663/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.7	
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.7	

Analysis Batch: 557055

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-28	CH-CCR-FD06-1021	Total/NA	Water	200.7 Rev 4.4	556663
MB 280-556663/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	556663
LCS 280-556663/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	556663
LCSD 280-556663/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-3 MS	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	556663
550-173429-3 MSD	CH-CCR-M44D-1021	Total/NA	Water	200.7 Rev 4.4	556663

General Chemistry

Analysis Batch: 257595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	SM 2540C	
MB 550-257595/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257595/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257595/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173478-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 257698

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	SM 2540C	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	SM 2540C	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	SM 2540C	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	SM 2540C	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 257698 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	SM 2540C	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	SM 2540C	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	SM 2540C	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	SM 2540C	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	SM 2540C	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	SM 2540C	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	SM 2540C	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	SM 2540C	
MB 550-257698/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-257698/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-257698/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173411-A-47 DU	Duplicate	Total/NA	Water	SM 2540C	
550-173429-12 DU	CH-CCR-M64-1021	Total/NA	Water	SM 2540C	

Analysis Batch: 258146

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	SM 2540C	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	SM 2540C	
MB 550-258146/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-258146/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-258146/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-173427-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 258207

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	350.1	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	350.1	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	350.1	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	350.1	
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	350.1	
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	350.1	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	350.1	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	350.1	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	350.1	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	350.1	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	350.1	
MB 550-258207/21	Method Blank	Total/NA	Water	350.1	
LCS 550-258207/22	Lab Control Sample	Total/NA	Water	350.1	
LCSD 550-258207/23	Lab Control Sample Dup	Total/NA	Water	350.1	
550-173429-1 MS	CH-CCR-M43-1021	Total/NA	Water	350.1	
550-173429-1 MSD	CH-CCR-M43-1021	Total/NA	Water	350.1	
550-173762-F-1 MS	Matrix Spike	Total/NA	Water	350.1	
550-173762-F-1 MSD	Matrix Spike Duplicate	Total/NA	Water	350.1	

Analysis Batch: 258292

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	SM 2320B	
MB 550-258292/34	Method Blank	Total/NA	Water	SM 2320B	
MB 550-258292/7	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-258292/33	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-258292/45	Lab Control Sample Dup	Total/NA	Water	SM 2320B	

General Chemistry (Continued)

Analysis Batch: 258292 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173411-E-71 DU	Duplicate	Total/NA	Water	SM 2320B	

Analysis Batch: 258332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-10	CH-CCR-M51-1021	Dissolved	Water	SM 5310B	
550-173429-13	CH-CCR-M64-1021	Dissolved	Water	SM 5310B	
550-173429-15	CH-CCR-M65-1021	Dissolved	Water	SM 5310B	
550-173429-17	CH-CCR-M66-1021	Dissolved	Water	SM 5310B	
550-173429-19	CH-CCR-M67-1021	Dissolved	Water	SM 5310B	
550-173429-22	CH-CCR-W123R-1021	Dissolved	Water	SM 5310B	
550-173429-25	CH-CCR-W126R-1021	Dissolved	Water	SM 5310B	
550-173429-27	CH-CCR-FAP-1021	Dissolved	Water	SM 5310B	
MB 550-258332/34	Method Blank	Dissolved	Water	SM 5310B	
MB 550-258332/63	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-258332/35	Lab Control Sample	Dissolved	Water	SM 5310B	
LCS 550-258332/64	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-258332/36	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
LCSD 550-258332/65	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-173411-B-42 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-173411-C-42 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-173429-13 MS	CH-CCR-M64-1021	Dissolved	Water	SM 5310B	
550-173429-13 MSD	CH-CCR-M64-1021	Dissolved	Water	SM 5310B	

Analysis Batch: 258399

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-1	CH-CCR-M43-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-3	CH-CCR-M44D-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-4	CH-CCR-M45-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-5	CH-CCR-M46-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-7	CH-CCR-M50-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-9	CH-CCR-M51-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-11	CH-CCR-M63-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/37	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258399/49	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173427-A-3 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 258432

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-2	CH-CCR-M43-1021	Dissolved	Water	SM 5310B	
550-173429-6	CH-CCR-M46-1021	Dissolved	Water	SM 5310B	
550-173429-8	CH-CCR-M50-1021	Dissolved	Water	SM 5310B	
MB 550-258432/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-258432/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-258432/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-173411-B-4 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-173411-D-4 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 258433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	SM 5310B	
MB 550-258433/22	Method Blank	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 258433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-258433/23	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-258433/24	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-173366-B-4 MS ^10	Matrix Spike	Total/NA	Water	SM 5310B	
550-173366-B-4 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 258556

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-14	CH-CCR-M65-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-16	CH-CCR-M66-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-18	CH-CCR-M67-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-20	CH-CCR-FD05-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-21	CH-CCR-W123R-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-23	CH-CCR-W125-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-24	CH-CCR-W126R-1021	Total/NA	Water	SM 4500 H+ B	
550-173429-26	CH-CCR-FAP-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258556/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258556/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173429-21 DU	CH-CCR-W123R-1021	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 258721

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-173429-12	CH-CCR-M64-1021	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258721/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-258721/12	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-173429-12 DU	CH-CCR-M64-1021	Total/NA	Water	SM 4500 H+ B	

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-1

Date Collected: 10/22/21 11:41

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258036	11/09/21 03:16	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258036	11/09/21 03:35	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258040	11/09/21 04:59	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:10	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 21:32	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 17:54	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:11	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:48	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:49	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M43-1021

Lab Sample ID: 550-173429-2

Date Collected: 10/22/21 11:41

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:17	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 21:46	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 19:07	MEG	TAL PHX

Client Sample ID: CH-CCR-M44D-1021

Lab Sample ID: 550-173429-3

Date Collected: 10/23/21 15:33

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258037	11/09/21 05:07	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258037	11/09/21 06:02	JNW	TAL PHX
Total/NA	Analysis	300.0		10	258215	11/09/21 21:13	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:08	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 21:36	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 17:52	ARE	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M44D-1021
Date Collected: 10/23/21 15:33
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:09	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:46	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M45-1021
Date Collected: 10/22/21 10:33
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258037	11/09/21 06:57	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258037	11/09/21 07:15	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:13	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 21:52	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 17:56	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:13	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:50	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M46-1021
Date Collected: 10/22/21 13:57
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258037	11/09/21 07:34	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258037	11/09/21 07:52	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258040	11/09/21 05:27	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:16	MGM	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	258344	11/10/21 16:47	MGM	TAL PHX

Client Sample ID: CH-CCR-M46-1021
Date Collected: 10/22/21 13:57
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 21:56	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 17:58	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:15	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:52	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M46-1021
Date Collected: 10/22/21 13:57
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:09	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 21:48	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 19:18	MEG	TAL PHX

Client Sample ID: CH-CCR-M50-1021
Date Collected: 10/23/21 10:37
Date Received: 11/01/21 15:48

Lab Sample ID: 550-173429-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 05:55	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/08/21 22:30	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/08/21 22:58	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:18	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:28	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:00	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:17	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:54	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:55	DGS	TAL PHX

Client: Arizona Public Service Company | Job ID: 550-173429-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-M50-1021 — Lab Sample ID: 550-173429-7

Date Collected: 10/23/21 10:37 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M50-1021 — Lab Sample ID: 550-173429-8

Date Collected: 10/23/21 10:37 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:20	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 21:50	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258432	11/11/21 19:28	MEG	TAL PHX

Client Sample ID: CH-CCR-M51-1021 — Lab Sample ID: 550-173429-9

Date Collected: 10/23/21 12:41 — **Matrix: Water**
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 06:23	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/08/21 23:26	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/08/21 23:54	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:21	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:33	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:02	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	258808	11/16/21 18:20	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	258891	11/17/21 12:48	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:56	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:56	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M51-1021

Lab Sample ID: 550-173429-10

Date Collected: 10/23/21 12:41

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:22	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 21:52	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 01:11	MEG	TAL PHX

Client Sample ID: CH-CCR-M63-1021

Lab Sample ID: 550-173429-11

Date Collected: 10/24/21 08:30

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258041	11/09/21 01:18	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/09/21 01:46	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:23	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:37	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:04	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:22	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 22:58	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258399	11/11/21 15:30	CRK	TAL PHX

Client Sample ID: CH-CCR-M64-1021

Lab Sample ID: 550-173429-12

Date Collected: 10/22/21 08:55

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 08:15	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/09/21 05:57	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/09/21 06:25	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:26	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:41	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:13	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:24	ARE	TAL PHX

Client Sample ID: CH-CCR-M64-1021

Lab Sample ID: 550-173429-12

Date Collected: 10/22/21 08:55

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:00	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:58	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258721	11/15/21 11:47	CRK	TAL PHX

Client Sample ID: CH-CCR-M64-1021

Lab Sample ID: 550-173429-13

Date Collected: 10/22/21 08:55

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:25	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 21:54	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 02:21	MEG	TAL PHX

Client Sample ID: CH-CCR-M65-1021

Lab Sample ID: 550-173429-14

Date Collected: 10/22/21 13:00

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258040	11/09/21 08:43	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/09/21 06:53	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/09/21 07:21	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:29	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:45	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:15	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:30	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:02	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 08:59	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-M65-1021

Lab Sample ID: 550-173429-15

Date Collected: 10/22/21 13:00

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:28	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 22:01	ARE	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258461	11/12/21 11:29	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 02:54	MEG	TAL PHX

Client Sample ID: CH-CCR-M66-1021

Lab Sample ID: 550-173429-16

Date Collected: 10/24/21 10:08

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258216	11/09/21 15:14	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/09/21 07:49	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/09/21 08:17	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:31	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:49	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:17	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:32	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:04	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 09:01	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	258146		YET	TAL PHX
					(Start)	11/10/21 06:13		
					(End)	11/11/21 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-M66-1021

Lab Sample ID: 550-173429-17

Date Collected: 10/24/21 10:08

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:30	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 22:03	ARE	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258461	11/12/21 11:31	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 03:06	MEG	TAL PHX

Client Sample ID: CH-CCR-M67-1021
Lab Sample ID: 550-173429-18
Date Collected: 10/22/21 14:57
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	258216	11/09/21 16:38	JNW	TAL PHX
Total/NA	Analysis	300.0		2	258041	11/09/21 04:05	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258041	11/09/21 05:29	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:39	MGM	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		2	258344	11/10/21 16:49	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 22:53	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:19	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:34	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:10	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 09:02	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-M67-1021
Lab Sample ID: 550-173429-19
Date Collected: 10/22/21 14:57
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:33	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 22:05	ARE	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258422	11/11/21 18:39	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 03:18	MEG	TAL PHX

Client Sample ID: CH-CCR-FD05-1021
Lab Sample ID: 550-173429-20
Date Collected: 10/23/21 09:48
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258215	11/09/21 23:40	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258215	11/09/21 23:59	JNW	TAL PHX
Total/NA	Analysis	300.0		50	258361	11/10/21 22:32	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:41	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-FD05-1021

Lab Sample ID: 550-173429-20

Date Collected: 10/23/21 09:48
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:13	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:21	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:36	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:12	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-W123R-1021

Lab Sample ID: 550-173429-21

Date Collected: 10/23/21 08:45
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258215	11/10/21 00:54	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258215	11/10/21 01:12	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258216	11/09/21 17:05	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:44	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:17	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:23	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:38	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:14	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 09:04	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-W123R-1021

Lab Sample ID: 550-173429-22

Date Collected: 10/23/21 08:45
Date Received: 11/01/21 15:48

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:35	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-173429-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: CH-CCR-W123R-1021

Lab Sample ID: 550-173429-22

Date Collected: 10/23/21 08:45

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 22:07	ARE	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258461	11/12/21 11:33	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 03:31	MEG	TAL PHX

Client Sample ID: CH-CCR-W125-1021

Lab Sample ID: 550-173429-23

Date Collected: 10/23/21 09:48

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258215	11/10/21 01:31	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258215	11/10/21 01:49	JNW	TAL PHX
Total/NA	Analysis	300.0		50	258361	11/10/21 23:00	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:47	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:21	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:25	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:40	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:16	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-W126R-1021

Lab Sample ID: 550-173429-24

Date Collected: 10/23/21 11:20

Matrix: Water

Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258215	11/10/21 02:07	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258215	11/10/21 02:26	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258216	11/09/21 17:33	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:49	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:25	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:27	ARE	TAL PHX

Client Sample ID: CH-CCR-W126R-1021
Lab Sample ID: 550-173429-24
Date Collected: 10/23/21 11:20
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:42	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:18	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 09:05	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	257698		YET	TAL PHX
					(Start)	11/04/21 08:13		
					(End)	11/05/21 09:00		
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX

Client Sample ID: CH-CCR-W126R-1021
Lab Sample ID: 550-173429-25
Date Collected: 10/23/21 11:20
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	258058	11/08/21 16:38	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258320	11/10/21 22:09	ARE	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		1	258461	11/12/21 11:35	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	258332	11/11/21 03:43	MEG	TAL PHX

Client Sample ID: CH-CCR-FAP-1021
Lab Sample ID: 550-173429-26
Date Collected: 10/31/21 13:25
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		200	258215	11/10/21 03:03	JNW	TAL PHX
Total/NA	Analysis	300.0		1000	258364	11/11/21 05:33	JNW	TAL PHX
Total/NA	Analysis	300.0		5	258216	11/09/21 18:01	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		20	258167	11/10/21 09:06	MGM	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		100	258167	11/10/21 09:17	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:29	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	258808	11/16/21 18:44	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:20	SRR	TAL PHX
Total/NA	Analysis	350.1		1	258207	11/10/21 10:46	DGS	TAL PHX
Total/NA	Analysis	SM 2320B		1	258292	11/10/21 16:43	DGS	TAL PHX

Client Sample ID: CH-CCR-FAP-1021

Lab Sample ID: 550-173429-26
Date Collected: 10/31/21 13:25
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	257595		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	258556	11/13/21 12:00	CRK	TAL PHX
Total/NA	Analysis	SM 5310B		10	258433	11/11/21 22:36	MEG	TAL PHX

Client Sample ID: CH-CCR-FAP-1021

Lab Sample ID: 550-173429-27
Date Collected: 10/31/21 13:25
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			257829	11/05/21 08:39	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		5	258058	11/08/21 17:36	MGM	TAL PHX
Dissolved	Prep	200.8			257711	11/04/21 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	258422	11/11/21 18:45	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		10	258332	11/11/21 03:53	MEG	TAL PHX

Client Sample ID: CH-CCR-FD06-1021

Lab Sample ID: 550-173429-28
Date Collected: 10/23/21 15:33
Matrix: Water
Date Received: 11/01/21 15:48

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	258215	11/10/21 03:21	JNW	TAL PHX
Total/NA	Analysis	300.0		200	258215	11/10/21 03:39	JNW	TAL PHX
Total/NA	Prep	200.7			257986	11/08/21 10:47	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	258167	11/09/21 15:54	MGM	TAL PHX
Total/NA	Prep	200.7			556663	11/10/21 07:45	PNS	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	557055	11/10/21 23:33	LMT	TAL DEN
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258668	11/15/21 18:31	ARE	TAL PHX
Total/NA	Prep	200.8			257695	11/04/21 06:52	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	258808	11/16/21 18:46	ARE	TAL PHX
Total/NA	Prep	245.1			257545	11/02/21 14:25	CXK	TAL PHX
Total/NA	Analysis	245.1		1	257652	11/02/21 23:22	SRR	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-22

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	11-30-21
A2LA	ISO/IEC 17025	2907.01	11-30-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-28-22
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21 *
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-22
Florida	NELAP	E87667-57	06-30-22
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-22
Iowa	State	IA#370	12-02-22
Kansas	NELAP	E-10166	04-30-22
Kentucky (WW)	State	KY98047	12-31-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-22
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-22
New Hampshire	NELAP	205319	04-29-22
New Jersey	NELAP	190002	07-01-22
New York	NELAP	59923	04-01-22
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-22
Oklahoma	State	2018-006	09-01-21 *
Oregon	NELAP	4025-011	01-08-22
Pennsylvania	NELAP	013	07-31-22
South Carolina	State	72002001	01-08-22
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-21-19	10-01-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-20-00065	03-06-23
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21 *
Virginia	NELAP	10490	06-14-22
Washington	State	C583-19	08-03-22
West Virginia DEP	State	354	11-30-21
Wisconsin	State	999615430	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins TestAmerica, Denver (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wyoming (UST)	A2LA	2907.01	11-30-21

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
350.1	Nitrogen, Ammonia (Low Level)	MCAWW	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173429

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification		Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	Sample Specific Notes:
CH-CCR-M43-1021	-01 + 02	10/22/2021	11:41	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		Low flow
CH-CCR-M44D-1021	-03	10/23/2021	15:33	G	W	2	N		X			X		X	X	X				X	"
CH-CCR-M45-1021	-04	10/22/2021	10:33	G	W	2	N		X			X		X	X	X				X	"
CH-CCR-M46-1021	-05 + 06	10/22/2021	13:57	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M50-1021	07 + 08	10/23/2021	10:37	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M51-1021	09 + 10	10/23/2021	12:41	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M63-1021	11	10/24/21	08:30	G	W	2	N		X			X		X	X	X				X	"
CH-CCR-M64-1021	12 + 13	10/22/21	8:55	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M65-1021	14 + 15	10/22/21	13:00	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M66-1021	16 + 17	10/24/21	10:08	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-M67-1021	18 + 19	10/22/21	14:57	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X		"
CH-CCR-FD05-1021	-20	10/23/21	09:48	G	W	2	N	N	X			X		X	X	X				X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______									1	4	4	4	4	4	1	1	2	3	3	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolve* 550-173429 Chain of Custody *d filtered'*

TEMP 1-8-C, 1-6-C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by:	Company:	Date/Time: 11/01/21 15:48	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by: TA PHX	Company: CAB	Date/Time: 11-01-21 15:48

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

TestAmerica Phoenix

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

173429

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	2 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☐ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (FAP)	☐ 2 days			Job / SDG No.:
PO #: 300588233	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	SM 5310B (DOC)	SM 4500-NH3 D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	[redacted]	[redacted]	[redacted]	[redacted]	Sample Specific Notes:
CH-CCR-W123R-1021 -21 -22	10/23/21	08:45	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					Low Flow
CH-CCR-W125-1021 -23	10/23/21	09:48	G	W	2	N		X			X		X	X	X				X				"
CH-CCR-W126R-1021 24 + 25	10/23/21	11:20	G	W	8	*		X	X	X	X	X	X	X	X	X	X	X					"
~~CH-CCR-W127-1021~~	~~N/A~~	~~N/A~~	~~G~~	~~W~~	~~8~~	~~*~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~					Dry "
CH-CCR-FAP-1021 26 + 27	10/31/21	13:25	G	W	12	*		X		X	X	X	X	X	X	X	X	X		X	X	X	"
CH-CCR-FD06-1021 28	10/23/21	15:33	G	W	2	N	N	X			X		X	X	X				X				"
CH-CCR-M44D-1021-MS -03	10/23/21	15:33	G	W	2		Y	X	X		X		X	X	X				X				Low Flow, MS
CH-CCR-M44D-1021-SD -03	10/23/21	15:33	G	W	2		Y	X	X		X		X	X	X				X				Low Flow, MSD
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	4	4	4	4	1	1	2	3	3	4	1	4	2	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Temp 1.8°C, 1.6°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______	
Relinquished by:	Company: Wood	Date/Time: 11/01/21 15:40	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA Phx	Date/Time: 11-01-21 15:48

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173429-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
				Preservation Code:					
CH-CCR-M43-1021 (550-173429-1)	10/22/21	11:41 Arizona		Water			X	1	AZ Sample
CH-CCR-M44D-1021 (550-173429-3)	10/23/21	15:33 Arizona		Water			X	1	AZ Sample
CH-CCR-M44D-1021 (550-173429-3MS)	10/23/21	15:33 Arizona	MS	Water			X	1	AZ Sample
CH-CCR-M44D-1021 (550-173429-3MSD)	10/23/21	15:33 Arizona	MSD	Water			X	1	AZ Sample
CH-CCR-M46-1021 (550-173429-5)	10/22/21	13:57 Arizona		Water			X	1	AZ Sample
CH-CCR-M50-1021 (550-173429-7)	10/23/21	10:37 Arizona		Water			X	1	AZ Sample
CH-CCR-M51-1021 (550-173429-9)	10/23/21	12:41 Arizona		Water			X	1	AZ Sample
CH-CCR-M64-1021 (550-173429-12)	10/22/21	08:55 Arizona		Water			X	1	AZ Sample
CH-CCR-M65-1021 (550-173429-14)	10/22/21	13:00 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ________ Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Ewell	Date/Time: 11-02-21 / 10:30	Company: TA-Phx	Received by: Fedex	Date/Time: / Company
Relinquished by: Fed ex	Date/Time:	Company	Received by: [signature]	Date/Time: 11/3/21 1055 / Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time: / Company
Custody Seals Intact: ☒ Yes △ No	Custody Seal No.: 1754782		Cooler Temperature(s) °C and Other Remarks: 0.6 IR11 CF +0/1.0	

Ver: 06/08/2021

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32259.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173429-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021	**Analysis Requested**		**Preservation Codes:**
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			Other:

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M66-1021 (550-173429-16)	10/24/21	10:08 Arizona		Water			X	1	AZ Sample
CH-CCR-M67-1021 (550-173429-18)	10/22/21	14:57 Arizona		Water			X	1	AZ Sample
CH-CCR-W123R-1021 (550-173429-21)	10/23/21	08:45 Arizona		Water			X	1	AZ Sample
CH-CCR-W126R-1021 (550-173429-24)	10/23/21	11:20 Arizona		Water			X	1	AZ Sample
CH-CCR-FAP-1021 (550-173429-26)	10/31/21	13:25 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:	
Relinquished by: Enell 11-02-21	Date/Time: 10:30	Company TA-Phx	Received by: Fedex	Date/Time:	Company
Relinquished by: Fedex	Date/Time:	Company	Received by:	Date/Time: 11/3/21 1055	Company ETA-DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:	

Ver: 06/08/2021

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-32260.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-173429-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/14/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Total Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M45-1021 (550-173429-4)	10/22/21	10:33 Arizona		Water			X	1	AZ Sample
CH-CCR-M63-1021 (550-173429-11)	10/24/21	08:30 Arizona		Water			X	1	AZ Sample
CH-CCR-FD05-1021 (550-173429-20)	10/23/21	09:48 Arizona		Water			X	1	AZ Sample
CH-CCR-W125-1021 (550-173429-23)	10/23/21	09:48 Arizona		Water			X	1	AZ Sample
CH-CCR-FD06-1021 (550-173429-28)	10/23/21	15:33 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ________ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) | Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature] 11-02-21	Date/Time: 10:30	Company: TA-PHX	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 11/3/21 1055	Company: ETA/DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173429-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 173429
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	False	Refer to Job Narrative for details.
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-173429-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 173429
List Number: 2
Creator: Lee, Jerry

List Source: Eurofins TestAmerica, Denver
List Creation: 11/03/21 07:50 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M43-1021	< 0.5	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 22, 2021 — Sample Date

11:41 (24 hour clock) — Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.5		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67578

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M43-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M44D-1021	3.4 ± 0.3	1.6 ± 0.4	5.0 ± 0.5

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 23, 2021 — Sample Date

15:33 (24 hour clock) — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	5.0 ± 0.5	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	3.4 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	1.6 ± 0.4	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67579

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M44D-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M45-1021	0.7 ± 0.2	< 0.6	0.7 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 22, 2021 — 10:33 (24 hour clock)

Sample Date — Sample Time

Owner/Contact Person ____________

Owner/Contact Fax Number ____________

Owner/Contact Phone Number ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67580

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M45-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M46-1021	0.8 ± 0.2	< 0.6	0.8 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 22, 2021 — 13:57 (24 hour clock)

Sample Date — Sample Time

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.8 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.8 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67581

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M46-1021

Authorized Signature: alex Mum

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M50-1021	< 0.5	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 23, 2021 — Sample Date

10:37 (24 hour clock) — Sample Time

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.5	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67582

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M50-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M51-1021	0.7 ± 0.2	< 0.6	0.7 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

[signature] 11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 23, 2021 | 12:41 (24 hour clock)

Sample Date | Sample Time

Owner/Contact Person

Owner/Contact Fax Number

Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67583

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M51-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 24, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M63-1021	0.7 ± 0.2	< 0.6	0.7 ± 0.2

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 24, 2021 — Sample Date | 8:30 — Sample Time (24 hour clock) | ______________ Owner/Contact Person

______________ Owner/Contact Fax Number | ______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.7 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67584

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M63-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M64-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 22, 2021 — Sample Date | 8:55 — Sample Time (24 hour clock) | ____________ Owner/Contact Person

____________ Owner/Contact Fax Number | ____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67585

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M64-1021

Authorized Signature: Alin Ulum

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M65-1021	0.4 ± 0.2	0.9 ± 0.3	1.3 ± 0.4

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers
11/15/2021
Alex Myers, Ph.D. Date
Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 22, 2021 — Sample Date 13:00 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring Date Q1 collected: ______________

☐ Quarterly Date Q2 collected: ______________

☐ Composite of four quarterly samples Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	1.3 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	0.4 ± 0.2	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.9 ± 0.3	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67586

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M65-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 24, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M66-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

alex Myers — 11/15/2021

Alex Myers, Ph.D. — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 24, 2021 — Sample Date

10:08 — Sample Time (24 hour clock)

Owner/Contact Person: ______________

Owner/Contact Fax Number: ______________

Owner/Contact Phone Number: ______________

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67587

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M66-1021

Authorized Signature: Alex Uriano

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 22, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-M67-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

alex Myers

Alex Myers, Ph.D.

11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

Sample Date: October 22, 2021

Sample Time: 14:57 (24 hour clock)

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67588

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-M67-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD05-1021	2.0 ± 0.3	1.9 ± 0.4	3.9 ± 0.5

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

alex Myers — 11/15/2021

Alex Myers, Ph.D. — Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 23, 2021 — Sample Date
9:48 — Sample Time (24 hour clock)

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ______________
Date Q2 collected: ______________
Date Q3 collected: ______________
Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	3.9 ± 0.5	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	2.0 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	1.9 ± 0.4	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67589
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-FD05-1021
Authorized Signature: [signature]
Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W123R-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________

PWS Name: ______________

October 23, 2021 — 8:45 (24 hour clock)

Sample Date — Sample Time

______________ Owner/Contact Person

______________ Owner/Contact Fax Number

______________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ______________

Date Q2 collected: ______________

Date Q3 collected: ______________

Date Q4 collected: ______________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67590

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W123R-1021

Authorized Signature: alix Mm

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W125-1021	1.4 ± 0.5	0.9 ± 0.7	2.3 ± 0.9

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________________

October 23, 2021 | 9:48 (24 hour clock)
Sample Date | Sample Time

____
Owner/Contact Person

____
Owner/Contact Fax Number

____
Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	2.3 ± 0.9		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	1.4 ± 0.5		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	0.9 ± 0.7		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67591

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-W125-1021

Authorized Signature: Alex Munn

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 24, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-W126R-1021	< 0.4	< 0.6	< 0.6

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers, Ph.D. — 11/15/2021
Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 24, 2021 — Sample Date
11:20 — Sample Time (24 hour clock)

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point
☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	< 0.6	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	< 0.4	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	< 0.6	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67592
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-W126R-1021
Authorized Signature: alex Thum
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 31, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method 901.1 (pCi/L)	Radium 228 Activity Method 901.1 (pCi/L)	Total Radium (pCi/L)
CH-CCR-FAP-1021	14.1 ± 2.3	< 3.6	14.1 ± 2.3

Date of Analysis	11/8/2021	11/8/2021	11/8/2021

Alex Myers 11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________

October 31, 2021 13:25 (24 hour clock) ______________

Sample Date Sample Time Owner/Contact Person

______________ ______________

Owner/Contact Fax Number Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring Date Q1 collected: ______________

☐ Quarterly Date Q2 collected: ______________

☐ Composite of four quarterly samples Date Q3 collected: ______________

Date Q4 collected: ______________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/8/2021	14.1 ± 2.3		X
901.1		1 pCi/L	Radium 226	4020	11/8/2021	14.1 ± 2.3		
901.1		1 pCi/L	Radium 228	4030	11/8/2021	< 3.6		

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67594

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FAP-1021

Authorized Signature: [signature]

Date Public Water System Notified: ______________

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-FD06-1021	2.5 ± 0.3	1.8 ± 0.3	4.3 ± 0.4

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________

PWS Name: ____________

October 23, 2021 — Sample Date

15:33 (24 hour clock) — Sample Time

____________ Owner/Contact Person

____________ Owner/Contact Fax Number

____________ Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring

☐ Quarterly

☐ Composite of four quarterly samples

Date Q1 collected: ____________

Date Q2 collected: ____________

Date Q3 collected: ____________

Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 μg/L	1 μg/L	Combined Uranium	4006		μg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	4.3 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	2.5 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	1.8 ± 0.3	

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67595

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-FD06-1021

Authorized Signature: [signature]

Date Public Water System Notified: ____________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.

3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com

(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-44D-1021-MS	2.7 ± 0.3	1.5 ± 0.3	4.2 ± 0.4

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers

11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ______________ PWS Name: ______________________________

October 23, 2021 | 15:33 (24 hour clock) ______________________________

Sample Date | Sample Time | Owner/Contact Person

______________________________ ______________________________

Owner/Contact Fax Number | Owner/Contact Phone Number

Sample Collection Point

☐ EPDS # ______________

Compliance Sample Type:

☐ Reduced Monitoring — Date Q1 collected: ____________

☐ Quarterly — Date Q2 collected: ____________

☐ Composite of four quarterly samples — Date Q3 collected: ____________

Date Q4 collected: ____________

*****RADIOCHEMICAL ANALYSIS*****

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result	Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000			
600/00-02		3 pCi/L	Gross Alpha	4002			
7500 - Rn			Radon	4004			
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006		µg/L	
			Uranium 234	4007			
			Uranium 235	4008			
			Uranium 238	4009			
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	4.2 ± 0.4	
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	2.7 ± 0.3	
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	1.5 ± 0.3	

*****LABORATORY INFORMATION*****

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67596

Lab ID Number: AZ0462

Lab Name: Radiation Safety Engineering, Inc.

Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459

Comments: CH-CCR-44D-1021-MS

Authorized Signature: [signature]

Date Public Water System Notified: ______________

DWAR 6: 11/2007

Radiation Safety Engineering, Inc.
3245 N. WASHINGTON ST. • CHANDLER, ARIZONA 85225-1121
Website: www.radsafe.com
(480) 897-9459
FAX (480) 892-5446

Radiochemical Activity in Water (pCi/L)

Arizona Public Service
400 N. 5th Street
Phoenix, AZ 85004

Sampling Date: October 23, 2021
Sample Received: November 01, 2021
Analysis Completed: November 15, 2021

Sample ID	Radium 226 Activity Method GammaRay HPGE (pCi/L)	Radium 228 Activity Method GammaRay HPGE (pCi/L)	Total Radium (pCi/L)
CH-CCR-44D-1021-SD	3.2 ± 0.3	1.5 ± 0.4	4.7 ± 0.5

Date of Analysis	11/4/2021	11/4/2021	11/4/2021

Alex Myers 11/15/2021

Alex Myers, Ph.D. Date

Laboratory License Number AZ0462

Arizona Department of Environmental Quality

Drinking Water Radionuclides-Adjusted Gross Alpha, Radium 226 & 228, Uranium Analysis Report

Samples To Be Taken At Entry Point Into Distribution System (EPDS) Only

PWS ID#: AZ04 ____________ PWS Name: ____________

October 23, 2021 — Sample Date
15:33 — Sample Time (24 hour clock)

Owner/Contact Person: ____________

Owner/Contact Fax Number: ____________

Owner/Contact Phone Number: ____________

Sample Collection Point

☐ EPDS # ____________

Compliance Sample Type:

☐ Reduced Monitoring
☐ Quarterly
☐ Composite of four quarterly samples

Date Q1 collected: ____________
Date Q2 collected: ____________
Date Q3 collected: ____________
Date Q4 collected: ____________

RADIOCHEMICAL ANALYSIS

>>>To be filled out by laboratory personnel<<<

*****Combined Uranium must be reported in micrograms per liter*****

Analysis Method	MCL	Reporting Limit	Contaminant Name	Cont. Code	Analyses Run Date	Result		Exceed MCL
	15 pCi/L		Adjusted Gross Alpha	4000				
600/00-02		3 pCi/L	Gross Alpha	4002				
7500 - Rn			Radon	4004				
ASTM D6239	30 µg/L	1 µg/L	Combined Uranium	4006			µg/L	
			Uranium 234	4007				
			Uranium 235	4008				
			Uranium 238	4009				
	5 pCi/L	1 pCi/L	Combined Radium (226,228)	4010	11/4/2021	4.7 ± 0.5		
GammaRay HPGE		1 pCi/L	Radium 226	4020	11/4/2021	3.2 ± 0.3		
GammaRay HPGE		1 pCi/L	Radium 228	4030	11/4/2021	1.5 ± 0.4		

LABORATORY INFORMATION

>>>To be filled out by laboratory personnel<<<

Specimen Number: RSE67597
Lab ID Number: AZ0462
Lab Name: Radiation Safety Engineering, Inc.
Printed Name and Phone Number of Laboratory Contact: Robert L. Metzger, Ph.D., C.H.P. (480) 897-9459
Comments: CH-CCR-44D-1021-SD
Authorized Signature: [signature]
Date Public Water System Notified: ____________

DWAR 6: 11/2007

Client Information

Name:	**Natalie Chrisman/602-250-3608** **Jim Edwards/928-288-1241**
Company	**Arizona Public Service**
Address	**4801 Cholla Lake Rd, Joseph City, AZ 86032**
Phone	**928-587-0319**
Site	**APS Cholla Power Plant (FAP)**

Radiation Safety Engineering, Inc.

3245 North Washington Street Chandler, Arizona 85225

Analysis Request

Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
CH-CCR-M43-1021	10/22/2021	11:41	**GW**						X	X	X				67578	
CH-CCR-M44D-1021	10/23/2021	15:33	**GW**						X	X	X				67579	
CH-CCR-M45-1021	10/22/2021	10:33	**GW**						X	X	X				67580	
CH-CCR-M46-1021	10/22/2021	13:57	**GW**						X	X	X				67581	
CH-CCR-M50-1021	10/23/2021	10:37	**GW**						X	X	X				67582	
CH-CCR-M51-1021	10/23/2021	12:41	**GW**						X	X	X				67583	
CH-CCR-M63-1021	10/24/2021	8:30	**GW**						X	X	X				67584	
CH-CCR-M64-1021	10/22/2021	8:55	**GW**						X	X	X				67585	
CH-CCR-M65-1021	10/22/2021	13:00	**GW**						X	X	X				67586	
CH-CCR-M66-1021	10/24/2021	10:08	**GW**						X	X	X				67587	

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers		PO #: 300588231	**Method HPGe**
Chain of Custody Seals			
Container Condition			
Lab No.			

Relinquished By: Adam Ramirez	Company: Wood	Date/time: 11-1-21 4:05	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Radiation Safety Engineering, Inc.
3245 North Washington Street, Chandler, Arizona 85225
Analysis Request

Client Information

Name:	Natalie Chrisman/602-250-3608 Jim Edwards/928-288-1241
Company	Arizona Public Service
Address	4801 Cholla Lake Rd, Joseph City, AZ 86032
Phone	928-587-0319
Site	APS Cholla Power Plant (FAP)

	Sample ID & Location (DWR#)	Collection Date	Collection Time	Media (DW* WW* Other)	Drinking Water Compliance	Gross Alpha	Gross Beta	Total Uranium	Isotopic Uranium	Ra-226	Ra-228	Ra-226 + Ra-228, Combined	H-3	Gamma Spectroscopy	Sr-89/Sr-90	Radon in Water	Radon in Air
	CH-CCR-M67-1021	10/22/2021	14:57	GW						X	X	X					67588
	CH-CCR-FD05-1021	10/23/2021	9:48	GW						X	X	X					67589
	CH-CCR-W123R-1021	10/23/2021	8:45	GW						X	X	X					67590
	CH-CCR-W125-1021	10/23/2021	9:48	GW						X	X	X					67591
	CH-CCR-W126R-1021	10/24/2021	11:20	GW						X	X	X					67592
Not Received	~~CH-CCR-W127-1021~~	N/A	N/A	GW						~~X~~	~~X~~	X					~~67593~~
	CH-CCR-FAP-1021	10/31/2021	13:25	GW						X	X	X					67594
	CH-CCR-FD06-1021	10/23/2021	15:33	GW						X	X	X					67595
	CH-CCR-44D-1021-MS	10/23/2021	15:33	GW						X	X	X					67596
	CH-CCR-44D-1021-SD	10/23/2021	15:33	GW						X	X	X					67597

Sample Receipt		Invoice to:	Instructions/Comments
Total No. of Containers		PO #: 300588231	**Method HPGe**
Chain of Custody Seals			
Container Condition			
Lab No.			

Relinquished By: Adam Ramirez	Company: Wood	Date/time: 11-1-21 4:05	Received By: Pat Flannery	Company: RSE	Date/time: 11-1-21 4:05
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:
Relinquished By:	Company:	Date/time:	Received By:	Company:	Date/time:

* DW = Drinking Water, WW = Waste Water, GW = Groundwater.

u/client/forms/cofc.frm

Appendix C

2021 Data Validation Report

2021 Data Validation Report

CCR Rule Compliance Groundwater Monitoring Data
Arizona Public Service Cholla Power Plant
Navajo County, Arizona
Project # 14-2021-2008

Prepared for:

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

January 31, 2022

2021 Data Validation Report

CCR Rule Compliance Groundwater Monitoring Data
Arizona Public Service Cholla Power Plant
Navajo County, Arizona
Project # 14-2021-2008

Prepared for:

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

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100

January 31, 2022

Table of Contents

List of Tables

List of Appendices

List of Acronyms and Abbreviations

%	percent
APS	Arizona Public Service Company
BTV(s)	background threshold value(s)
CCR	coal combustion residuals
CLP	Contract Laboratory Program
COC	chain of custody
EPA	United States Environmental Protection Agency
GWPS(s)	Groundwater Protection Standard(s)
ID	identification
LCS	laboratory control sample
LCSD	laboratory control sample
MCL	maximum contaminant level
mg/L	milligrams per liter
MS	matrix spike
MSD	matrix spike duplicate
QC	quality control
RL	reporting limit
RPD	relative percent difference
SAP	sampling and analysis plan
SDG	sample delivery group
SM	Standard Method
TDS	total dissolved solids
Wood	Wood Environment & Infrastructure Solutions, Inc.

1.0 Introduction

Arizona Public Service (APS) collected groundwater Detection and Assessment Monitoring samples to support Coal Combustion Residuals (CCR) Rule Compliance during the 2021 calendar year (the reporting period) at the APS Cholla Power Plant, located near Joseph City in Navajo County, Arizona. This report presents the standard methods used to validate reporting period data and documents the results of the data validation process in summary tables and checklists generated as the samples were collected throughout the year.

2.0 Data Validation Methodology

Wood Environment & Infrastructure Solutions, Inc. (Wood) performed a United States Environmental Protection Agency (EPA) Stage 2A validation on samples collected by APS during the 2021 calendar year. This is equivalent to a Level I data evaluation as defined in the project sampling and analysis plan (SAP). The Stage 2A validation includes review of the quality control (QC) results in laboratory analytical reports and does not include review or validation of the raw analytical data. Data validation activities have been performed in general accordance with:

- EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.
- EPA, 2017. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-2017-001.
- Montgomery & Associates, 2015. Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona. November 30, 2015.

The CLP guidelines were written specifically for the CLP and have been modified for the purposes of data reviews conducted during the reporting period where they differ from method-specific QC requirements.

During each groundwater monitoring round conducted during the reporting period, the laboratory's certified analytical report and supporting documentation were reviewed to assess the following:

- Data package and electronic data deliverable completeness;
- Chain of custody (COC) compliance;
- Holding time compliance;
- Presence or absence of laboratory contamination as demonstrated by laboratory blanks;
- Accuracy and bias as demonstrated by recovery of laboratory control sample (LCS) and matrix spike (MS) samples;
- Analytical precision as relative percent difference (RPD) of analyte concentration between laboratory duplicates, LCS/LCS duplicates (LCSDs), or MSs/MS duplicates (MSDs);
- Insofar as possible, the degree of conformance to method requirements and good laboratory practices.

Appendix A presents data assessment checklists generated for each sample delivery group submitted to the analytical laboratory during the reporting period. The laboratory performing the analyses as well as the methods of analysis are presented in the individual checklists. Table 1 presents a comprehensive listing of reporting period samples and Table 2 summarizes field duplicate detections at concentrations greater than analytical reporting limits.

In general, it is important to recognize that no analytical data are guaranteed to be correct, even if all QC audits are passed. Strict QC serves to increase confidence in data, but any reported value may potentially contain error.

3.0 Explanation of Data Quality Indicators

Summary explanations of the specific data quality indicators reviewed during data validation are presented below.

3.1 Laboratory Control Sample Recoveries

LCSs are aliquots of analyte free matrices that are spiked with the analytes of interest for an analytical method, or a representative subset of those analytes. The spiked matrix is then processed through the same analytical procedures as the samples it accompanies. LCS recovery is an indication of a laboratory's ability to successfully perform an analytical method in an interference free matrix.

3.2 Matrix Spike Recoveries

MSs and MSDs are prepared by adding known amounts of the analytes of interest for an analytical method, or a representative subset of those analytes, to an aliquot of sample. The spiked sample is then processed through the same extraction, concentration, cleanup, and analytical procedures as the unspiked samples in an analytical batch.

MS recovery and precision are an indication of a laboratory's ability to successfully recover an analyte in the matrix of a specific sample or closely related sample matrices. It is important not to apply MS results for any specific sample to other samples without understanding how the sample matrices are related.

3.3 Blank Concentrations

Blank samples are aliquots of analyte free matrix that are used as negative controls to verify that the sample collection, storage, preparation, and analysis system does not produce false positive results.

Laboratory blanks are processed by the laboratory using exactly the same procedures as the field samples. Target analytes should not be found in laboratory blanks.

When target analytes are detected in blanks, analyte concentrations in associated samples less than five times the concentration detected in the blank will be U qualified as being not detected.

3.4 Laboratory Duplicates

Laboratory duplicate analysis verifies acceptable method precision by the laboratory at the time of preparation and analysis and/or sampling precision at the time of collection.

4.0 Definitions of Data Validation Qualifiers

The following qualifiers may be added to the data during data validation:

J The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

R The sample result is rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

U The analyte was analyzed for but was not detected above the reported sample quantitation limit.

UJ The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

5.0 Chain of Custody and Sample Receipt Condition Documentation

Unless otherwise noted in the Data Assessment Checklists included in Appendix A, the samples were received at the laboratories under proper COC, intact, properly preserved, and at temperatures less than the SAP-specified maximum of 6 degrees Celsius.

6.0 Specific Data Validation Findings

Results for groundwater monitoring samples collected in 2021 may be considered usable with the limitations and exceptions summarized in Table 3. The following sections identify requirements used in data assessment. Laboratory-specified limits are noted on the Data Assessment Checklists included in Appendix A.

6.1 Metals By EPA Methods 200.7, 200.8, and 245.1

6.1.1 Holding Times

Samples must be analyzed for metals within the SAP-specified holding time of 28 days for mercury and 180 days for additional metals.

6.1.2 Laboratory Blanks

Target analytes must not be detected in the laboratory blanks associated with the analysis of site samples.

6.1.3 Laboratory Control Sample Accuracy and Precision

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum.

6.1.4 Matrix Spikes/Matrix Spike Duplicates

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. MS/MSD recoveries must be within laboratory-specified limits and RPDs between MS and MSD results must be less than the laboratory-specified maximum.

6.1.5 Analytical Sensitivity

RLs for antimony, arsenic, barium, beryllium, cadmium, chromium, mercury, selenium, and thallium must be sufficiently low to meet the National Primary Drinking Water Regulation Maximum Contamination Limits (MCLs). RLs for cobalt, lead, lithium, and molybdenum must be sufficiently low to meet alternative Groundwater Protection Standards (GWPSs).

Boron and calcium are not EPA-regulated analytes in groundwater and it is not possible to evaluate the RLs for these analytes against the National Primary Drinking Water Regulation MCLs.

6.2 Anions by EPA Method 300.0

6.2.1 Holding Times

Samples must be analyzed for anions within the SAP-specified holding time of 28 days.

6.2.2 Laboratory Blanks

Fluoride, chloride, and sulfate must not be detected in the laboratory blanks associated with the analysis of these samples.

6.2.3 Laboratory Control Sample Accuracy and Precision

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum values.

6.2.4 Matrix Spikes/Matrix Spike Duplicates

Laboratories performed MS and MSD analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. Recoveries must be within the laboratory-specified limits and RPDs between MS and MSD results must be less than the laboratory-specified limit.

6.2.5 Laboratory Duplicates

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. The RPDs between duplicate results must be less than the laboratory-specified limit.

6.2.6 Analytical Sensitivity

Fluoride RLs must be sufficiently low to meet the 4 mg/L MCL. Chloride and sulfate are not EPA-regulated analytes in groundwater and it is not possible to evaluate the RLs for these analytes against the Primary Drinking Water Regulation MCLs.

There are applicable CCR Groundwater Monitoring Program Background Threshold Values (BTVs) for fluoride, chloride, and sulfate for the site. Analytical sensitivity must also be evaluated for these site-specific comparison criteria.

6.3 Total Dissolved Solids by SM 2540C

6.3.1 Holding Times

All samples must be analyzed for TDS within the SAP-specified holding time of 7 days.

6.3.2 Laboratory Blanks

TDS must not be detected in the laboratory blanks at concentrations above the reporting limit.

6.3.3 Laboratory Control Sample Accuracy and Precision

LCS and LCSD recoveries must be within the laboratory-specified limits and RPDs between the LCS and LCSD results must be less than the laboratory-specified maximum values.

6.3.4 Laboratory Duplicates

Laboratories performed duplicate analysis for TDS on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.4 pH by SM 4500B

6.4.1 Holding Times

All samples must be analyzed for pH within 15 minutes of sample collection.

6.4.2 Laboratory Control Sample Accuracy and Precision

LCS recoveries must be within the laboratory-specified limits.

6.4.3 Laboratory Duplicates

Laboratories performed duplicate analysis for pH on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.5 General Chemistry by EPA Method 350.1, SM 2320B, and SM 5310B

6.5.1 Holding Times

Samples must be analyzed for ammonia, total organic carbon (TOC), and dissolved organic carbon (DOC) within 28 days of sample collection. Samples must be analyzed for alkalinity within 14 days of sample collection.

6.5.2 Laboratory Control Sample Accuracy and Precision

LCS recoveries must be within the laboratory-specified limits.

6.5.3 Laboratory Duplicates

Laboratories performed duplicate analysis on the project samples specified in the Data Assessment Checklists included in Appendix A. RPDs between primary sample and laboratory duplicate results must be less than the laboratory-specified limit.

6.6 Radium by EPA Methods 903.0 and 904.0

6.6.1 Holding Time

All samples must be analyzed for radium within the EPA-recommended holding time of 6 months.

6.6.2 Laboratory Blanks

Radium must not be detected in the laboratory blanks at concentrations above the reporting limit.

6.6.3 Laboratory Control Sample Accuracy and Precision

LCS and LCSD recoveries must be within laboratory-specified limits.

6.6.4 Carrier Accuracy

Carrier recoveries must be within the laboratory-specified limits.

6.6.5 Analytical Sensitivity

Total radium RLs must be sufficiently low to meet the MCL of 5 picocuries per liter. Pending development of applicable CCR Groundwater Monitoring Program BTVs and/or GPSs for the site, analytical sensitivity must also be evaluated for these site-specific comparison criteria.

7.0 Field Duplicates

APS collected field duplicate samples of the specified field original samples as specified in Table 1. Target analyte detections are summarized in Table 2. Precision values must be less than the SAP-specified maximum of 20%, or the differences between the detected concentrations must be less than the RLs.

8.0 Summary and Conclusions

Data are usable with the addition of qualifiers as presented in Table 3. Considerably more qualified data is included for the 2021 reporting period data when compared to historical data validation findings.

9.0 References

EPA, 2017. EPA Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review, EPA 540-R-2017-001.

EPA, 2004. SW 846 Test Methods for Evaluating Solid Wastes, Update IIIB.

Montgomery & Associates, 2015. Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona. #CH_GW_SAP_021_11-30-15. November 30, 2015.

10.0 Limitations

This report was prepared exclusively for Arizona Public Service by Wood Environment & Infrastructure Solutions, Inc. The quality of information, conclusions, and estimates contained herein is consistent with the level of effort involved in Wood services and based on: i) information available at the time of preparation, ii) data supplied by outside sources, and iii) the assumptions, conditions, and qualifications set forth in this report. This data validation report is intended to be used by Arizona Public Service for the Cholla Power Plant site only, subject to the terms and conditions of its contract with Wood. Any other use of, or reliance on, this report by any third party is at that party's sole risk.

Tables

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Detection Monitoring	BAM	1/13/2021 10:34	CH-CCR-M59-011321	550-156601-1	--	
Detection Monitoring	BAM	1/13/2021 11:52	CH-CCR-M61-011321	550-156601-2	--	
Detection Monitoring	BAM	1/13/2021 13:00	CH-CCR-M60-011321	550-156601-3	--	
Assessment	SEDI	1/13/2021 14:35	CH-CCR-M57A-011321	550-156601-4	--	
Assessment	BAP	4/17/2021 9:15	CH-CCR-M52-0421	550-162152-1/2	66509	
Assessment	BAP	4/17/2021 12:30	CH-CCR-M53-0421	550-162152-3/4	66510	
Assessment	BAP	4/18/2021 9:09	CH-CCR-M55-0421	550-162152-5/6	66511	
Assessment	BAP	4/17/2021 8:35	CH-CCR-M69-0421	550-162152-7/8	66512	
Assessment	BAP	4/17/2021 7:53	CH-CCR-M70-0421	550-162152-9/10	66513	
Assessment	BAP	4/17/2021 14:15	CH-CCR-W301-0421	550-162152-11/12	66514	
Assessment	BAP	4/17/2021 15:05	CH-CCR-W302-0421	550-162152-13/14	66515	
Assessment	BAP	4/17/2021 13:31	CH-CCR-W303-0421	550-162152-15/16	66516	
Assessment	BAP	4/18/2021 6:39	CH-CCR-W304-0421	550-162152-17/18	66517	
Assessment	BAP	4/17/2021 11:17	CH-CCR-W305-0421	550-162152-19/20	66519	
Assessment	BAP	4/17/2021 12:30	CH-CCR-FD03-0421	550-162152-21/22	66518	Field duplicate of CH-CCR-M53-0421
Assessment	BAP	4/17/2021 10:07	CH-CCR-W306-0421	550-162152-23/24	66520	
Assessment	BAP	4/18/2021 7:30	CH-CCR-W307-0421	550-162152-25/26	66521	
Assessment	BAP	4/18/2021 8:25	CH-CCR-W308-0421	550-162152-27/28	66522	
Assessment	BAP	4/18/2021 10:03	CH-CCR-W309-0421	550-162152-29/30	66523	
Assessment	BAP	4/16/2021 14:45	CH-CCR-W314-0421	550-162152-31/32	66524	
Assessment	BAP	4/14/2021 10:27	CH-CCR-W317-0421	550-162152-33	66525	
Assessment	BAP	4/16/2021 10:10	CH-CCR-BAP-0421	550-162152-34/35	66526	
Assessment	BAP	4/17/2021 11:45	CH-CCR-BAPTD-0421	550-162152-36/37	66527	
Assessment	BAP	4/16/2021 16:10	CH-CCR-Petroglyph-0421	550-162152-38/39	66549	
Assessment	BAP	4/16/2021 15:35	CH-CCR-TanWash-0421	550-162152-40/41	66550	
Assessment	BAP	4/17/2021 11:45	CH-CCR-FD04-0421	550-162152-42/43	66528	Field duplicate of CH-CCR-BAPTD-0421
Assessment	FAP	4/14/2021 13:14	CH-CCR-M43-0421	550-162157-1/2	66529	
Assessment	FAP	4/16/2021 7:50	CH-CCR-M44D-0421	550-162157-3	66530	
Assessment	FAP	4/14/2021 11:49	CH-CCR-M45-0421	550-162157-4	66531	
Assessment	FAP	4/14/2021 15:28	CH-CCR-M46-0421	550-162157-5/6	66532	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	FAP	4/15/2021 13:47	CH-CCR-M50-0421	550-162157-7/8	66533	
Assessment	FAP	4/15/2021 14:29	CH-CCR-M51-0421	550-162157-9/10	66534	
Assessment	FAP	4/15/2021 9:29	CH-CCR-M63-0421	550-162157-11	66535	
Assessment	FAP	4/15/2021 15:48	CH-CCR-M64-0421	550-162157-12/13	66536	
Assessment	FAP	4/14/2021 14:17	CH-CCR-M65-0421	550-162157-14/15	66537	
Assessment	FAP	4/15/2021 7:25	CH-CCR-M66-0421	550-162157-16/17	66538	
Assessment	FAP	4/14/2021 16:25	CH-CCR-M67-0421	550-162157-18/19	66539	
Assessment	FAP	4/15/2021 10:50	CH-CCR-W123-0421	550-162157-20/21	66540	
Assessment	FAP	4/15/2021 12:53	CH-CCR-W125-0421	550-162157-22	66541	
Assessment	FAP	4/15/2021 8:15	CH-CCR-W126-0421	550-162157-23/24	66542	
Assessment	FAP	4/15/2021 11:30	CH-CCR-GeronC-0421	550-162157-25	66543	
Assessment	FAP	4/15/2021 12:12	CH-CCR-GeronD-0421	550-162157-26	66544	
Assessment	FAP	4/15/2021 8:40	CH-CCR-HuntB-0421	550-162157-27	66545	
Assessment	FAP	4/16/2021 7:50	CH-CCR-FD05-0421	550-162157-28	66546	Field duplicate of CH-CCR-M44D-0421
Assessment	SEDI	4/14/2021 8:08	CH-CCR-M56-0421	550-162158-1	66551	
Assessment	SEDI	4/14/2021 9:06	CH-CCR-M57-0421	550-162158-2	66552	
Assessment	SEDI	4/14/2021 9:45	CH-CCR-M58-0421	550-162158-3	66553	
Assessment	SEDI	4/14/2021 7:24	CH-CCR-M62-0421	550-162158-4	66554	
Assessment	SEDI	4/14/2021 8:08	CH-CCR-FD02-0421	550-162158-5	66555	Field duplicate of CH-CCR-M56-0421
Detection Monitoring	BAM	4/16/2021 13:45	CH-CCR-M54-0421	550-162159-1	--	
Detection Monitoring	BAM	4/16/2021 11:00	CH-CCR-M59-0421	550-162159-2	--	
Detection Monitoring	BAM	4/16/2021 12:40	CH-CCR-M60-0421	550-162159-3	--	
Detection Monitoring	BAM	4/16/2021 11:54	CH-CCR-M61-0421	550-162159-4	--	
Detection Monitoring	BAM	4/16/2021 11:00	CH-CCR-FD01-0421	550-162159-5	--	Field duplicate of CH-CCR-M59-0421
Assessment	FAP	4/16/2021 7:50	CH-CCR-M44D-0421-MS	--	66547	Assessed as CH-CCR-M44D-0421 and CH-CCR-FD05-0421
Assessment	FAP	4/16/2021 7:50	CH-CCR-M44D-0421-SD	--	66548	
Assessment	BAP	6/1/2021 12:12	CH-CCR-P226A-0621	550-164785-1/2	66750	
Assessment	BAP	6/1/2021 12:27	CH-CCR-P226B-0621	550-164785-3/4	66751	
Assessment	BAP	6/1/2021 12:51	CH-CCR-P226C-0621	550-164785-5/6	66752	
Assessment	BAP	6/1/2021 13:03	CH-CCR-P226D-0621	550-164785-7/8	66753	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	BAP	6/1/2021 13:20	CH-CCR-P226E-0621	550-164785-9/10	66754	
Assessment	BAP	6/1/2021 13:55	CH-CCR-P226G-0621	550-164785-11/12	66755	
Assessment	BAP	6/1/2021 14:21	CH-CCR-P226H-0621	550-164785-13/14	66756	
Detection Monitoring	BAM	7/7/2021 9:55	CH-CCR-M60-0721	550-166821-1	--	
Detection Monitoring	BAPD	9/29/2021 16:34	CH-DEV-MW74M-0921	550-171819-1	--	
Detection Monitoring	BAM	10/24/2021 15:57	CH-CCR-M54-1021	550-173427-1	--	Re-analyzed for sulfate outside of hold
Detection Monitoring	BAM	10/24/2021 13:01	CH-CCR-M59-1021	550-173427-2	--	Re-analyzed for sulfate outside of hold
Detection Monitoring	BAM	10/24/2021 15:05	CH-CCR-M60-1021	550-173427-3	--	Re-analyzed for sulfate outside of hold
Detection Monitoring	BAM	10/24/2021 14:00	CH-CCR-M61-1021	550-173427-4	--	Re-analyzed for sulfate outside of hold
Detection Monitoring	BAM	10/24/2021 14:00	CH-CCR-FD01-1021	550-173427-5	--	Field duplicate of CH-CCR-M61-1021 Re-analyzed for sulfate outside of hold
Assessment	FAP	10/22/2021 11:41	CH-CCR-M43-1021	550-173429-1/2	67578	
Assessment	FAP	10/23/2021 15:33	CH-CCR-M44D-1021	550-173429-3	67579	
Assessment	FAP	10/22/2021 10:33	CH-CCR-M45-1021	550-173429-4	67580	
Assessment	FAP	10/22/2021 13:57	CH-CCR-M46-1021	550-173429-5/6	67581	
Assessment	FAP	10/23/2021 10:37	CH-CCR-M50-1021	550-173429-7/8	67582	
Assessment	FAP	10/23/2021 12:41	CH-CCR-M51-1021	550-173429-9/10	67583	
Assessment	FAP	10/24/2021 8:30	CH-CCR-M63-1021	550-173429-11	67584	
Assessment	FAP	10/22/2021 8:55	CH-CCR-M64-1021	550-173429-12/13	67585	
Assessment	FAP	10/22/2021 13:00	CH-CCR-M65-1021	550-173429-14/15	67586	
Assessment	FAP	10/24/2021 10:08	CH-CCR-M66-1021	550-173429-16/17	65787	
Assessment	FAP	10/22/2021 14:57	CH-CCR-M67-1021	550-173429-18/19	67588	
Assessment	FAP	10/23/2021 9:48	CH-CCR-FD05-1021	550-173429-20	67589	Field duplicate of CH-CCR-W125-1021
Assessment	FAP	10/23/2021 8:45	CH-CCR-W123R-1021	550-173429-21/22	67590	
Assessment	FAP	10/23/2021 9:48	CH-CCR-W125-1021	550-173429-23	67591	
Assessment	FAP	10/24/2021 11:20	CH-CCR-W126R-1021	550-173429-24/25	67592	
Assessment	FAP	10/31/2021 13:25	CH-CCR-FAP-1021	550-173429-26/27	67594	
Assessment	FAP	10/23/2021 15:33	CH-CCR-FD06-1021	550-173429-28	67595	Field duplicate of CH-CCR-M44D-1021
Assessment	FAP	10/23/2021 15:33	CH-CCR-44D-1021-MS	--	67596	Assessed as CH-CCR-M44D-1021 and CH-CCR-FD07-1021
Assessment	FAP	10/23/2021 15:33	CH-CCR-44D-1021-SD	--	67597	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	SEDI	10/21/2021 16:53	CH-CCR-CR1R-1021	550-173423-1	67623	
Assessment	SEDI	10/21/2021 12:58	CH-CCR-M56-1021	550-173423-2	67624	
Assessment	SEDI	10/21/2021 13:39	CH-CCR-M57-1021	550-173423-3	67625	
Assessment	SEDI	10/21/2021 14:22	CH-CCR-M58-1021	550-173423-4	67626	
Assessment	SEDI	10/21/2021 11:08	CH-CCR-M62-1021	550-173423-5	67627	
Assessment	SEDI	10/21/2021 16:53	CH-CCR-FD02-1021	550-173423-6	67628	Field duplicate of CH-CCR-CR1R-1021
Assessment	SEDI	10/21/2021 16:53	CH-CCR-CR1R-1021-MS	--	67629	Assessed as CH-CCR-CR1R-1021 and CH-CCR-FD08-1021
Assessment	SEDI	10/21/2021 16:53	CH-CCR-CR1R-1021-SD	--	67630	
Assessment	BAP	10/29/2021 11:28	CH-CCR-M52-1021	550-173411-1/2	67598	
Assessment	BAP	10/28/2021 16:18	CH-CCR-M53-1021	550-173411-3/4	67599	
Assessment	BAP	10/27/2021 15:47	CH-CCR-M55-1021	550-173411-5/6	67600	
Assessment	BAP	10/29/2021 12:28	CH-CCR-M69-1021	550-173411-7/8	67601	
Assessment	BAP	10/29/2021 14:28	CH-CCR-M70-1021	550-173411-9/10	67602	
Assessment	BAP	10/30/2021 11:08	CH-CCR-M71-1021	550-173411-11/12	67603	
Assessment	BAP	10/30/2021 9:54	CH-CCR-M72-1021	550-173411-13/14	67604	
Assessment	BAP	10/30/2021 12:00	CH-CCR-M73-1021	550-173411-15/16	67605	
Assessment	BAP	10/30/2021 13:00	CH-CCR-M74-1021	550-173411-17/18	67606	
Assessment	BAP	10/28/2021 13:42	CH-CCR-M77-1021	550-173411-19/20	67607	
Assessment	BAP	10/28/2021 11:18	CH-CCR-M78-1021	550-173411-21/22	67608	
Assessment	BAP	10/25/2021 13:30	CH-CCR-FD03-1021	550-173411-23/24	67609	Field duplicate of CH-CCR-M79-1021
Assessment	BAP	10/25/2021 13:30	CH-CCR-M79-1021	550-173411-25/26	67610	
Assessment	BAP	10/28/2021 14:32	CH-CCR-W301-1021	550-173411-27/28	67611	
Assessment	BAP	10/30/2021 11:58	CH-CCR-W302-1021	550-173411-29/30	67612	
Assessment	BAP	10/28/2021 15:20	CH-CCR-W303-1021	550-173411-31/32	67613	
Assessment	BAP	10/28/2021 10:25	CH-CCR-W304-1021	550-173411-33/34	67614	
Assessment	BAP	10/29/2021 9:28	CH-CCR-W305-1021	550-173411-35/36	67615	
Assessment	BAP	10/29/2021 10:26	CH-CCR-W306-1021	550-173411-37/38	67616	
Assessment	BAP	10/28/2021 9:17	CH-CCR-W307R-1021	550-173411-39/40	67617	
Assessment	BAP	10/28/2021 8:13	CH-CCR-W308-1021	550-173411-41/42	67618	
Assessment	BAP	10/27/2021 14:55	CH-CCR-W309-1021	550-173411-43/44	67619	

TABLE 1
FIELD SAMPLES SUBMITTED TO ANALYTICAL LABORATORIES
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sampling Program	CCR Unit	Collection Date and Time	Field Sample Identification	Eurofins TestAmerica Phoenix Sample Identification	Radiation Safety Engineering Sample Identification	Notes
Assessment	BAP	10/29/2021 15:30	CH-CCR-W314-1021	550-173411-45/46	67620	
Assessment	BAP	10/21/2021 15:30	CH-CCR-W317-1021	550-173411-47	67621	Re-analyzed for lithium
Assessment	BAP	10/28/2021 9:17	CH-CCR-FD04-1021	550-173411-49/50	67622	Field duplicate of CH-CCR-W307R-1021
Assessment	BAP	10/31/2021 11:52	CH-CCR-BAP-1021	550-173411-51/52	--	
Assessment	BAP	10/30/2021 14:40	CH-CCR-BAPTD-1021	550-173411-53/54	--	
Assessment	BAP	10/30/2021 15:20	CH-CCR-Petroglyph-1021	550-173411-55/56	--	
Assessment	BAP	10/30/2021 15:52	CH-CCR-TanWash-1021	550-173411-57/58	--	
Assessment	BAP	10/31/2021 8:14	CH-CCR-TWX3-1021	550-173411-59/60	--	
Assessment	BAP	10/31/2021 8:32	CH-CCR-TWX4-1021	550-173411-61/62	--	
Assessment	BAP	10/31/2021 8:51	CH-CCR-TWX5-1021	550-173411-63/64	--	
Assessment	BAP	10/31/2021 9:10	CH-CCR-TWX6-1021	550-173411-65/66	--	
Assessment	BAP	10/31/2021 9:36	CH-CCR-TWX7-1021	550-173411-67/68	--	
Assessment	BAP	10/31/2021 9:52	CH-CCR-TWX8-1021	550-173411-69/70	--	
Assessment	BAP	10/31/2021 10:24	CH-CCR-TWX9-1021	550-173411-71/72	--	
Assessment	BAP	10/31/2021 10:41	CH-CCR-TWX10-1021	550-173411-73/74	--	
Detection Monitoring	BAM	11/19/2021 13:46	CH-CCR-M54-1121	550-174639-1	--	Resample for TDS and sulfate
Detection Monitoring	BAM	11/19/2021 11:46	CH-CCR-M59-1121	550-174639-2	--	Resample for TDS and sulfate
Detection Monitoring	BAM	11/19/2021 13:07	CH-CCR-M60-1121	550-174639-3	--	Resample for TDS and sulfate
Detection Monitoring	BAM	11/19/2021 12:26	CH-CCR-M61-1121	550-174639-4	--	Resample for TDS and sulfate
Detection Monitoring	BAM	11/19/2021 12:26	CH-CCR-FD01-1121	550-174639-5	--	Field duplicate of CH-CCR-M61-1121 Resample for TDS and sulfate

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M59-0421 and CH-CCR-FD01-0421					
Chloride	300 mg/L	1,200	1,300	8.0%	
Fluoride	0.60 mg/L	1.4	1.4	0.0%	
Sulfate	102 mg/L	340	350	2.9%	
Boron	0.050 mg/L	0.49	0.48	2.1%	
Calcium	2.0 mg/L	87	86	1.2%	
Total Dissolved Solids	100 mg/L	2,800	2,800	0.0%	
pH	1.7 SU	7.6	7.8	2.6%	
Samples CH-CCR-M56-0421 and CH-CCR-FD02-0421					
Chloride	400 mg/L	1,800	1,800	0.0%	
Fluoride	0.80 mg/L	0.39 J	0.40 J	2.5%	
Sulfate	400 mg/L	950	950	0.0%	
Lithium	0.020 mg/L	0.10	0.10	0.0%	
Boron	0.050 mg/L	0.33	0.33	0.0%	
Calcium	2.0 mg/L	310	310	0.0%	
Arsenic	0.0010 mg/L	0.0029	0.0036	22%	± RL
Barium	0.00050 mg/L	0.050	0.050	0.0%	
Chromium	0.0020 mg/L	0.014	0.0097	36%	J-FD
Cobalt	0.0010 mg/L	0.00073 J	0.00072 J	1.4%	
Molybdenum	0.0010 mg/L	0.0097	0.0091	6.4%	
Selenium	0.0010 mg/L	0.0016	0.0022	32%	± RL
Total Dissolved Solids	100 mg/L	4,200	6,900	49%	J-FD
pH	1.7 SU	7.5	7.7	2.6%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M53-0421 and CH-CCR-FD03-0421					
Chloride	400 mg/L	2,400	2,200	8.7%	
Fluoride	0.80 mg/L	2.1	2.1	0.0%	
Sulfate	400 mg/L	3,100	2,900	6.7%	
Lithium	0.020 mg/L	0.21	0.21	0.0%	
Boron	0.050 mg/L	3.2	3.2	0.0%	
Calcium	2.0 mg/L	670	680	1.5%	
Iron	0.10 mg/L	0.10	0.064 J	44%	± RL
Manganese	0.010 mg/L	4.1	4.1	0.0%	
Arsenic	0.0020 mg/L	0.0019 J	0.0024	23%	± RL
Barium	0.0010 mg/L	0.0083	0.0083	0.0%	
Cadmium	0.00020 mg/L	0.00093	0.00079	16%	
Chromium	0.0020 mg/L	0.0020	0.0017 J	16%	
Cobalt	0.0010 mg/L	0.012	0.012	0.0%	
Molybdenum	0.0010 mg/L	0.029	0.027	7.1%	
Selenium	0.0010 mg/L	0.0010	0.00096 J	4.1%	
Ammonia	0.050 mg/L	0.22	0.11	67%	J-FD
Total Dissolved Solids	100 mg/L	7,800	7,500	3.9%	
pH	1.7 SU	7.3	7.3	0.0%	
Dissolved Organic Carbon	0.50 mg/L	1.3	1.2	8.0%	
Iron, Dissolved	0.10 mg/L	0.091 J	0.056 J	48%	± RL
Manganese, Dissolved	0.010 mg/L	4.2	4.2	0.0%	
Arsenic, Dissolved	0.0010 mg/L	0.0012	0.0013	8.0%	
Cobalt, Dissolved	0.0010 mg/L	0.012	0.012	0.0%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-BAPTD-0421 and CH-CCR-FD04-0421					
Chloride	400 mg/L	2,700	2,600	3.8%	
Fluoride	0.80 mg/L	3.1	3.1	0.0%	
Sulfate	400 mg/L	3,200	3,100	3.2%	
Lithium	0.020 mg/L	0.23	0.25	8.3%	
Boron	0.050 mg/L	4.3	4.3	0.0%	
Calcium	2.0 mg/L	700	710	1.4%	
Iron	0.10 mg/L	0.77	0.68	12%	
Magnesium	2.0 mg/L	280	280	0.0%	
Manganese	0.010 mg/L	2.9	2.8	3.5%	
Potassium	0.50 mg/L	17	17	0.0%	
Sodium	2.5 mg/L	2,000	2,100	4.9%	
Arsenic	0.0020 mg/L	0.0027	0.0020	30%	± RL
Barium	0.0010 mg/L	0.012	0.011	8.7%	
Chromium	0.0020 mg/L	0.0017 J	0.00098 J	54%	± RL
Cobalt	0.0010 mg/L	0.0095	0.0093	2.1%	
Lead	0.0010 mg/L	0.019	0.0078	84%	J-FD
Molybdenum	0.0010 mg/L	0.025	0.025	0.0%	
Selenium	0.0010 mg/L	0.0015	0.0011	31%	± RL
Ammonia	0.050 mg/L	0.077	0.075	2.6%	
Alkalinity as CaCO3	6.0 mg/L	150	160	6.5%	
Bicarbonate Alkalinity	6.0 mg/L	150	160	6.5%	
Total Dissolved Solids	100 mg/L	8,700	8,200	5.9%	
pH	1.7 SU	7.6	7.5	1.3%	
Total Organic Carbon	0.50 mg/L	1.4	1.3	7.4%	
Iron, Dissolved	0.10 mg/L	0.71	0.62	14%	
Manganese, Dissolved	0.010 mg/L	3.0	2.8	6.9%	
Cobalt, Dissolved	0.0010 mg/L	0.0096	0.0090	6.5%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M44D-0421 and CH-CCR-FD05-0421					
Chloride	400 mg/L	1,000	1,000	0.0%	
Fluoride	0.80 mg/L	0.77 J	1	2.6%	
Sulfate	400 mg/L	330	320	3.1%	
Beryllium	0.0010 mg/L	0.00040 J	0.0010 U	NC	± RL
Lithium	0.020 mg/L	0.040	0.039	2.5%	
Boron	0.050 mg/L	0.25	0.29	14.8%	
Calcium	2.0 mg/L	91	87	4.5%	
Antimony	0.0020 mg/L	0.0020 U	0.00023 J	NC	± RL
Arsenic	0.0010 mg/L	0.0014	0.0023	48.6%	± RL
Barium	0.0010 mg/L	0.021	0.020	4.9%	
Molybdenum	0.0010 mg/L	0.0029	0.0027	7%	
Total Dissolved Solids	40 mg/L	2,300	2,300	0%	
pH	1.7 SU	7.0	7.0	0.0%	
Radium 226	0.4 pCi/L	1.9 ± 0.2	1.6 ± 0.2	17%	
Radium 228	0.7 pCi/L	0.9 ± 0.3	1.5 ± 0.4	50%	± RL
Total Radium	0.7 pCi/L	2.8 ± 0.4	3.1 ± 0.4	10%	
Samples CH-CCR-M61-1021 and CH-CCR-FD01-1021					
Chloride	400 mg/L	1,400	1,400	0.0%	
Fluoride	0.80 mg/L	1.4	1.4	0.0%	
Sulfate	400 mg/L	400	450	12%	
Sulfate (re-analysis)	20 mg/L	400	400	0.0%	
Sulfate (re-analysis duplicate)	20 mg/L	390	380	2.6%	
Boron	0.050 mg/L	0.48	0.49	2.1%	
Calcium	2.0 mg/L	88	89	1.1%	
Total Dissolved Solids	100 mg/L	3,200	3,000	6.5%	
pH	1.7 SU	7.6	7.6	0.0%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-CR1R-1021 and CH-CCR-FD02-1021					
Antimony	0.00100 mg/L	0.0000750 J	0.00100 U	NC	± RL
Arsenic	0.000500 mg/L	0.000660	0.000700	5.9%	
Barium	0.000500 mg/L	0.0790	0.0820	3.7%	
Boron	0.0530 mg/L	0.160	0.150	6.5%	
Cadmium	0.00010 mg/L	0.0000610 J	0.00010 U	NC	± RL
Calcium	2.10 mg/L	110	110	0.0%	
Chloride	400 mg/L	660	640	3.1%	
Cobalt	0.000500 mg/L	0.0000760 J	0.000500 U	NC	± RL
Fluoride	0.800 mg/L	0.360 J	0.400 J	10.5%	
Lithium	0.0200 mg/L	0.0330	0.0330	0.0%	
Molybdenum	0.000500 mg/L	0.00730	0.00770	5.3%	
pH	1.70 SU	7.90	7.90	0.0%	
Selenium	0.000500 mg/L	0.000250 J	0.000780	103%	J-FD
Sulfate	4.00 mg/L	260	260	0%	
Thallium	0.00010 mg/L	0.000380	0.00010 U	NC	J/UJ-FD
Total Dissolved Solids	20.0 mg/L	1,500	1,600	6.5%	
Radium 226	0.4 pCi/L	0.5 ± 0.2	0.4 U	NC	± RL
Total Radium	0.6 pCi/L	0.5 ± 0.2	0.6 U	NC	
Samples CH-CCR-M79-1021 and CH-CCR-FD03-1021					
Chloride	400 mg/L	2,400	2,400	0.0%	
Fluoride	0.80 mg/L	0.51 J	0.51 J	0.0%	
Sulfate	400 mg/L	2,600	2,500	3.9%	
Lithium	0.020 mg/L	0.15	0.16	6.5%	
Boron	0.050 mg/L	0.33	0.33	0.0%	
Calcium	2.0 mg/L	740	750	1.3%	
Manganese	0.010 mg/L	3.8	3.9	2.6%	
Arsenic	0.0010 mg/L	0.0016	0.0016	0.0%	
Barium	0.0010 mg/L	0.012	0.011	8.7%	
Cadmium	0.00020 mg/L	0.00020 U	0.000084 J	NC	± RL
Cobalt	0.0010 mg/L	0.011	0.0091	19%	
Molybdenum	0.0010 mg/L	0.016	0.016	0.0%	
Selenium	0.0010 mg/L	0.0017	0.0020	16%	
Total Dissolved Solids	100 mg/L	6,900	7,300	5.6%	
pH	1.7 SU	7.3	7.4	1.4%	
Iron, Dissolved	0.10 mg/L	0.24	0.22	8.7%	
Manganese, Dissolved	0.010 mg/L	3.8	3.9	2.6%	
Arsenic, Dissolved	0.00050 mg/L	0.0014	0.0012	15%	
Cobalt, Dissolved	0.00050 mg/L	0.0081	0.0074	9.0%	
Dissolved Organic Carbon	0.50 mg/L	0.65	0.67	3.0%	
Radium 226	0.4 pCi/L	0.4 U	0.4 ± 0.2	NC	
Total Radium	0.6 pCi/L	0.6 U	0.4 ± 0.2	NC	± RL

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-W307R-1021 and CH-CCR-FD04-1021					
Chloride	400 mg/L	2,700	2,700	0.0%	
Fluoride	0.80 mg/L	0.56 J	0.55 J	1.8%	
Sulfate	400 mg/L	2,700	2,700	0.0%	
Lithium	0.020 mg/L	0.28	0.26	7.4%	
Boron	0.050 mg/L	2.6	2.5	3.9%	
Calcium	2.0 mg/L	720	700	2.8%	
Iron	0.10 mg/L	0.33 U	0.32	NC	
Manganese	0.010 mg/L	1.8	1.8	0.0%	
Arsenic	0.0010 mg/L	0.0017	0.0018	5.7%	
Barium	0.0010 mg/L	0.028	0.022	24%	J-FD
Cadmium	0.00020 mg/L	0.00071	0.00054	27%	± RL
Chromium	0.0020 mg/L	0.011	0.0092 U	NC	
Cobalt	0.0010 mg/L	0.072	0.062	15%	
Lead	0.0010 mg/L	0.0010	0.00090	11%	
Molybdenum	0.0010 mg/L	0.027	0.022	20%	J-FD
Selenium	0.0010 mg/L	0.0021	0.0012	55%	± RL
Thallium	0.00020 mg/L	0.00020 U	0.000054 J	NC	± RL
Ammonia	0.050 mg/L	0.058	0.050 U	NC	
Total Dissolved Solids	100 mg/L	8,400	7,900	6.1%	
pH	1.7 SU	7.4	7.3	1.4%	
Iron, Dissolved	0.10 mg/L	0.22	0.22	0.0%	
Manganese, Dissolved	0.010 mg/L	1.9	1.9	0.0%	
Arsenic, Dissolved	0.00050 mg/L	0.0019	0.0022	15%	
Cobalt, Dissolved	0.00050 mg/L	0.055	0.056	1.8%	
Dissolved Organic Carbon	0.50 mg/L	1.3	1.3 U	NC	
Samples CH-CCR-W125-1021 and CH-CCR-FD05-1021					
Chloride	400 mg/L	750	760	1.3%	
Fluoride	0.80 mg/L	0.56 J	0.53 J	5.5%	
Sulfate	100 mg/L	310	380	20.3%	± RL
Lithium	0.020 mg/L	0.026	0.026	0.0%	
Boron	0.050 mg/L	0.18	0.16	11.8%	
Calcium	2.0 mg/L	120	120	0.0%	
Antimony	0.0010 mg/L	0.000066 J	0.000096 J	37%	± RL
Arsenic	0.0005 mg/L	0.0051	0.0038	29%	J-FD
Barium	0.00050 mg/L	0.022	0.022	0.0%	
Cobalt	0.00050 mg/L	0.0012	0.00072	50%	± RL
Molybdenum	0.00050 mg/L	0.0028	0.0025	11%	
Selenium	0.00050 mg/L	0.00011 J	0.00050 U	NC	± RL
Thallium	0.00010 mg/L	0.000015 J	0.00010 U	NC	± RL
Total Dissolved Solids	20 mg/L	1,700	1,600	6.1%	
pH	1.7 SU	7.7	7.7	0.0%	
Radium 226	0.4 pCi/L	1.4 ± 0.5	2.0 ± 0.3	35%	J-FD
Radium 228	0.6 pCi/L	0.9 ± 0.7	1.9 ± 0.4	71%	J-FD
Total Radium	0.6 pCi/L	2.3 ± 0.9	3.9 ± 0.5	52%	J-FD
Samples CH-CCR-M44D-1021 and CH-CCR-FD06-1021					
Chloride	400 mg/L	1,100	1,100	0.0%	

TABLE 2
FIELD DUPLICATE DETECTIONS
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Fluoride	0.80 mg/L	0.76 J	0.66 J	14%	
Sulfate	20 mg/L	330	410	22%	J-FD
Lithium	0.020 mg/L	0.041	0.04	5.0%	
Boron	0.050 mg/L	0.24	0.43	57%	J-FD
Calcium	2.0 mg/L	84	83	1.2%	
Antimony	0.0010 mg/L	0.000071 J	0.000069 J	2.9%	
Arsenic	0.0005 mg/L	0.0016 U	0.00093	NC	UJ/J-FD
Barium	0.00050 mg/L	0.020	0.021	4.9%	
Cadmium	0.00010 mg/L	0.000043 J	0.00010 U	NC	± RL
Chromium	0.0010 mg/L	0.0010 U	0.00044 J	NC	± RL
Molybdenum	0.00050 mg/L	0.0021	0.0032	42%	J-FD
Selenium	0.00050 mg/L	0.00019 J	0.00050 U	NC	± RL
Radium 226	0.4 pCi/L	3.4 ± 0.3	2.5 ± 0.3	31%	J-FD
Radium 228	0.6 pCi/L	1.6 ± 0.4	1.8 ± 0.3	12%	
Total Radium	0.6 pCi/L	5.0 ± 0.5	4.3 ± 0.4	15%	
Samples CH-CCR-M44D-1021 and CH-CCR-FD07-1021					
Radium 226	0.4 pCi/L	2.7 ± 0.3	3.2 ± 0.3	17%	
Radium 228	0.6 pCi/L	1.5 ± 0.3	1.5 ± 0.4	0.0%	
Total Radium	0.6 pCi/L	4.2 ± 0.4	4.7 ± 0.5	11%	
Samples CH-CCR-CR1R-1021 and CH-CCR-FD08-1021					
Radium 228	0.6 pCi/L	0.6 U	0.7 ± 0.3	NC	
Total Radium	0.6 pCi/L	0.6 U	0.7 ± 0.3	NC	
Samples CH-CCR-M61-1121 and CH-CCR-FD01-1121					
Total Dissolved Solids	100 mg/L	2,300	2,300	0.0%	
Sulfate	4.0 mg/L	370	370	0.0%	

Notes:

± RL = the difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precisions.

FD = Imprecision between primary and field duplicate results.

mg/L = milligrams per liter

NC = not calculable

pCi/L = picoCuries per liter

SU = standard units

Qualifier Definitions:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-BAP-0421	J162152-1	Cobalt	0.00061 mg/L	J DL
CH-CCR-BAP-0421	J162152-1	Cobalt, Dissolved	0.00086 mg/L	J DL
CH-CCR-BAP-0421	J162152-1	Nitrate Nitrite as N	0.14 mg/L	J DL
CH-CCR-BAP-0421	J162152-1	pH	8.9 SU	J HT
CH-CCR-BAPTD-0421	J162152-1	Chromium	0.0017 mg/L	J DL
CH-CCR-BAPTD-0421	J162152-1	Lead	0.019 mg/L	J FD
CH-CCR-BAPTD-0421	J162152-1	pH	7.6 SU	J HT
CH-CCR-FD03-0421	J162152-1	Ammonia	0.11 mg/L	J FD
CH-CCR-FD03-0421	J162152-1	Chromium	0.0017 mg/L	J DL
CH-CCR-FD03-0421	J162152-1	Dissolved Organic Carbon	1.2 mg/L	J LM
CH-CCR-FD03-0421	J162152-1	Dissolved Organic Carbon - Duplicate	1.2 mg/L	J LM
CH-CCR-FD03-0421	J162152-1	Dissolved Organic Carbon - Quad	1.2 mg/L	J LM
CH-CCR-FD03-0421	J162152-1	Iron	0.064 mg/L	J DL
CH-CCR-FD03-0421	J162152-1	Iron, Dissolved	0.056 mg/L	J DL
CH-CCR-FD03-0421	J162152-1	pH	7.3 SU	J HT
CH-CCR-FD03-0421	J162152-1	Selenium	0.00096 mg/L	J DL
CH-CCR-FD04-0421	J162152-1	Chromium	0.00098 mg/L	J DL
CH-CCR-FD04-0421	J162152-1	Lead	0.0078 mg/L	J FD
CH-CCR-FD04-0421	J162152-1	pH	7.5 SU	J HT
CH-CCR-M52-0421	J162152-1	Arsenic	0.0017 mg/L	J DL
CH-CCR-M52-0421	J162152-1	pH	6.9 SU	J HT
CH-CCR-M53-0421	J162152-1	Ammonia	0.22 mg/L	J FD
CH-CCR-M53-0421	J162152-1	Arsenic	0.0019 mg/L	J DL
CH-CCR-M53-0421	J162152-1	Dissolved Organic Carbon	1.3 mg/L	J LM
CH-CCR-M53-0421	J162152-1	Dissolved Organic Carbon - Duplicate	1.3 mg/L	J LM
CH-CCR-M53-0421	J162152-1	Dissolved Organic Carbon - Quad	1.3 mg/L	J LM
CH-CCR-M53-0421	J162152-1	Iron, Dissolved	0.091 mg/L	J DL
CH-CCR-M53-0421	J162152-1	pH	7.3 SU	J HT
CH-CCR-M55-0421	J162152-1	Antimony	0.00026 mg/L	J DL
CH-CCR-M55-0421	J162152-1	Fluoride	0.58 mg/L	J DL
CH-CCR-M55-0421	J162152-1	Iron, Dissolved	0.075 mg/L	J DL
CH-CCR-M55-0421	J162152-1	Manganese	0.0038 mg/L	J DL
CH-CCR-M55-0421	J162152-1	Manganese, Dissolved	0.0039 mg/L	J DL
CH-CCR-M55-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-M69-0421	J162152-1	Arsenic, Dissolved	0.00081 mg/L	J DL
CH-CCR-M69-0421	J162152-1	pH	7.3 SU	J HT
CH-CCR-M70-0421	J162152-1	Arsenic	0.0016 mg/L	J DL
CH-CCR-M70-0421	J162152-1	Arsenic, Dissolved	0.00099 mg/L	J DL
CH-CCR-M70-0421	J162152-1	Chromium	0.0010 mg/L	J DL
CH-CCR-M70-0421	J162152-1	Iron	0.087 mg/L	J DL
CH-CCR-M70-0421	J162152-1	Iron, Dissolved	0.083 mg/L	J DL
CH-CCR-M70-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-Petroglyph-0421	J162152-1	Antimony	0.00013 mg/L	J DL
CH-CCR-Petroglyph-0421	J162152-1	Nitrate Nitrite as N	0.15 mg/L	J DL
CH-CCR-Petroglyph-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-TanWash-0421	J162152-1	Antimony	0.00014 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-TanWash-0421	J162152-1	Chromium	0.0015 mg/L	J DL
CH-CCR-TanWash-0421	J162152-1	pH	7.2 SU	J HT
CH-CCR-W301-0421	J162152-1	Fluoride	0.34 mg/L	J DL
CH-CCR-W301-0421	J162152-1	Iron, Dissolved	0.082 mg/L	J DL
CH-CCR-W301-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-W302-0421	J162152-1	Iron, Dissolved	0.059 mg/L	J DL
CH-CCR-W302-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-W303-0421	J162152-1	Arsenic	0.0019 mg/L	J DL
CH-CCR-W303-0421	J162152-1	Fluoride	0.50 mg/L	J DL
CH-CCR-W303-0421	J162152-1	pH	7.5 SU	J HT
CH-CCR-W304-0421	J162152-1	Arsenic	0.0016 mg/L	J DL
CH-CCR-W304-0421	J162152-1	Arsenic, Dissolved	0.00072 mg/L	J DL
CH-CCR-W304-0421	J162152-1	Fluoride	0.24 mg/L	J DL
CH-CCR-W304-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-W305-0421	J162152-1	Antimony	0.00010 mg/L	J DL
CH-CCR-W305-0421	J162152-1	Arsenic	0.0018 mg/L	J DL
CH-CCR-W305-0421	J162152-1	Chloride	2,300 mg/L	J HM
CH-CCR-W305-0421	J162152-1	Chromium	0.0012 mg/L	J DL
CH-CCR-W305-0421	J162152-1	Dissolved Organic Carbon	1.6 mg/L	J LM
CH-CCR-W305-0421	J162152-1	Dissolved Organic Carbon - Duplicate	1.6 mg/L	J LM
CH-CCR-W305-0421	J162152-1	Dissolved Organic Carbon - Quad	1.6 mg/L	J LM
CH-CCR-W305-0421	J162152-1	Fluoride	0.45 mg/L	J DL
CH-CCR-W305-0421	J162152-1	pH	7.4 SU	J HT
CH-CCR-W305-0421	J162152-1	Sulfate	2,300 mg/L	J HM
CH-CCR-W306-0421	J162152-1	Antimony	0.00023 mg/L	J DL
CH-CCR-W306-0421	J162152-1	Cobalt, Dissolved	0.00091 mg/L	J DL
CH-CCR-W306-0421	J162152-1	Manganese, Dissolved	0.0091 mg/L	J DL
CH-CCR-W306-0421	J162152-1	pH	7.9 SU	J HT
CH-CCR-W307-0421	J162152-1	Antimony	0.000092 mg/L	J DL
CH-CCR-W307-0421	J162152-1	Cadmium	0.00013 mg/L	J DL
CH-CCR-W307-0421	J162152-1	Fluoride	0.38 mg/L	J DL
CH-CCR-W307-0421	J162152-1	Lead	0.00078 mg/L	J DL
CH-CCR-W307-0421	J162152-1	pH	7.3 SU	J HT
CH-CCR-W308-0421	J162152-1	Antimony	0.00010 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Arsenic	0.0018 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Cobalt	0.00077 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Cobalt	0.00080 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Fluoride	0.46 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Iron	0.071 mg/L	J DL
CH-CCR-W308-0421	J162152-1	Iron, Dissolved	0.049 mg/L	J DL
CH-CCR-W308-0421	J162152-1	pH	7.2 SU	J HT
CH-CCR-W309-0421	J162152-1	Antimony	0.000092 mg/L	J DL
CH-CCR-W309-0421	J162152-1	Arsenic	0.0015 mg/L	J DL
CH-CCR-W309-0421	J162152-1	Arsenic, Dissolved	0.00083 mg/L	J DL
CH-CCR-W309-0421	J162152-1	Cobalt	0.0010 mg/L	U MB

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
CH-CCR-W309-0421	J162152-1	Iron	0.076	mg/L	J	DL
CH-CCR-W309-0421	J162152-1	pH	7.4	SU	J	HT
CH-CCR-W314-0421	J162152-1	Iron, Dissolved	0.059	mg/L	J	DL
CH-CCR-W314-0421	J162152-1	pH	7.4	SU	J	HT
CH-CCR-W317-0421	J162152-1	Fluoride	0.35	mg/L	J	DL
CH-CCR-W317-0421	J162152-1	pH	7.6	SU	J	HT
CH-CCR-W317-0421	J162152-1	Selenium	0.00096	mg/L	J	DL
CH-CCR-FD05-0421	J162157-1	Antimony	0.0020	mg/L	U	MB
CH-CCR-FD05-0421	J162157-1	Barium	0.020	mg/L	J	HL
CH-CCR-FD05-0421	J162157-1	Fluoride	0.75	mg/L	J	DL
CH-CCR-FD05-0421	J162157-1	pH	7.0	SU	J	HT
CH-CCR-FD05-0421	J162157-1	Selenium	0.00081	mg/L	J	DL
CH-CCR-FD05-0421	J162157-1	Sulfate	320	mg/L	J	DL
CH-CCR-GeronC-0421	J162157-1	Antimony	0.00030	mg/L	J	DL
CH-CCR-GeronC-0421	J162157-1	pH	7.1	SU	J	HT
CH-CCR-GeronD-0421	J162157-1	Antimony	0.00015	mg/L	J	DL
CH-CCR-GeronD-0421	J162157-1	pH	7.5	SU	J	HT
CH-CCR-GeronD-0421	J162157-1	Selenium	0.00088	mg/L	J	DL
CH-CCR-HuntB-0421	J162157-1	Antimony	0.0020	mg/L	U	MB
CH-CCR-HuntB-0421	J162157-1	Barium	0.010	mg/L	J	HL
CH-CCR-HuntB-0421	J162157-1	Chromium	0.0012	mg/L	J	DL
CH-CCR-HuntB-0421	J162157-1	pH	7.7	SU	J	HT
CH-CCR-M43-0421	J162157-1	Antimony	0.00013	mg/L	J	DL
CH-CCR-M43-0421	J162157-1	Cobalt	0.00039	mg/L	J	DL
CH-CCR-M43-0421	J162157-1	Cobalt, Dissolved	0.00036	mg/L	J	DL
CH-CCR-M43-0421	J162157-1	Fluoride	0.49	mg/L	J	DL
CH-CCR-M43-0421	J162157-1	pH	7.3	SU	J	HT
CH-CCR-M44D-0421	J162157-1	Beryllium	0.0010	mg/L	U	MB
CH-CCR-M44D-0421	J162157-1	Fluoride	0.77	mg/L	J	DL
CH-CCR-M44D-0421	J162157-1	pH	7.0	SU	J	HT
CH-CCR-M44D-0421	J162157-1	Sulfate	330	mg/L	J	DL
CH-CCR-M45-0421	J162157-1	Cobalt	0.00095	mg/L	J	DL
CH-CCR-M45-0421	J162157-1	Fluoride	0.65	mg/L	J	DL
CH-CCR-M45-0421	J162157-1	pH	7.2	SU	J	HT
CH-CCR-M45-0421	J162157-1	Selenium	0.00082	mg/L	J	DL
CH-CCR-M46-0421	J162157-1	Fluoride	0.68	mg/L	J	DL
CH-CCR-M46-0421	J162157-1	pH	7.2	SU	J	HT
CH-CCR-M50-0421	J162157-1	Cobalt	0.00045	mg/L	J	DL
CH-CCR-M50-0421	J162157-1	Cobalt, Dissolved	0.00067	mg/L	J	DL
CH-CCR-M50-0421	J162157-1	Iron, Dissolved	0.084	mg/L	J	DL
CH-CCR-M50-0421	J162157-1	pH	7.5	SU	J	HT
CH-CCR-M50-0421	J162157-1	Total Dissolved Solids	8,100	mg/L	J	HT
CH-CCR-M51-0421	J162157-1	Cobalt, Dissolved	0.00014	mg/L	J	DL
CH-CCR-M51-0421	J162157-1	Iron, Dissolved	0.072	mg/L	J	DL
CH-CCR-M51-0421	J162157-1	Nitrate Nitrite as N	0.18	mg/L	J	DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-M51-0421	J162157-1	pH	7.4 SU	J HT
CH-CCR-M63-0421	J162157-1	Antimony	0.00020 mg/L	J DL
CH-CCR-M63-0421	J162157-1	Beryllium	0.0010 mg/L	U MB
CH-CCR-M63-0421	J162157-1	Fluoride	0.27 mg/L	J DL
CH-CCR-M63-0421	J162157-1	pH	7.7 SU	J HT
CH-CCR-M63-0421	J162157-1	Selenium	0.00036 mg/L	J DL
CH-CCR-M64-0421	J162157-1	Dissolved Organic Carbon	4.6 mg/L	J LM
CH-CCR-M64-0421	J162157-1	Dissolved Organic Carbon - Duplicate	4.6 mg/L	J LM
CH-CCR-M64-0421	J162157-1	Dissolved Organic Carbon - Quad	4.6 mg/L	J LM
CH-CCR-M64-0421	J162157-1	Fluoride	0.21 mg/L	J DL
CH-CCR-M64-0421	J162157-1	pH	7.5 SU	J HT
CH-CCR-M65-0421	J162157-1	Ammonia	0.041 mg/L	J DL
CH-CCR-M65-0421	J162157-1	pH	7.3 SU	J HT
CH-CCR-M66-0421	J162157-1	pH	7.3 SU	J HT
CH-CCR-M67-0421	J162157-1	Fluoride	0.61 mg/L	J DL
CH-CCR-M67-0421	J162157-1	pH	7.0 SU	J HT
CH-CCR-W123-0421	J162157-1	Antimony	0.0012 mg/L	J DL
CH-CCR-W123-0421	J162157-1	pH	7.7 SU	J HT
CH-CCR-W125-0421	J162157-1	Cobalt	0.00054 mg/L	J DL
CH-CCR-W125-0421	J162157-1	Fluoride	0.55 mg/L	J DL
CH-CCR-W125-0421	J162157-1	pH	7.7 SU	J HT
CH-CCR-W125-0421	J162157-1	Selenium	0.00019 mg/L	J DL
CH-CCR-W125-0421	J162157-1	Sulfate	350 mg/L	J DL
CH-CCR-W126-0421	J162157-1	pH	7.6 SU	J HT
CH-CCR-FD02-0421	J162158-1	Antimony	0.0020 mg/L	U MB
CH-CCR-FD02-0421	J162158-1	Chromium	0.0097 mg/L	J FD
CH-CCR-FD02-0421	J162158-1	Cobalt	0.00072 mg/L	J DL
CH-CCR-FD02-0421	J162158-1	Fluoride	0.40 mg/L	J DL
CH-CCR-FD02-0421	J162158-1	pH	7.7 SU	J HT
CH-CCR-FD02-0421	J162158-1	Total Dissolved Solids	6,900 mg/L	J HT, FD
CH-CCR-M56-0421	J162158-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M56-0421	J162158-1	Chromium	0.014 mg/L	J FD
CH-CCR-M56-0421	J162158-1	Cobalt	0.00073 mg/L	J DL
CH-CCR-M56-0421	J162158-1	Fluoride	0.39 mg/L	J DL
CH-CCR-M56-0421	J162158-1	pH	7.5 SU	J HT
CH-CCR-M56-0421	J162158-1	Total Dissolved Solids	4,200 mg/L	J FD
CH-CCR-M57-0421	J162158-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M57-0421	J162158-1	Fluoride	0.35 mg/L	J DL
CH-CCR-M57-0421	J162158-1	pH	7.4 SU	J HT
CH-CCR-M58-0421	J162158-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M58-0421	J162158-1	Fluoride	0.32 mg/L	J DL
CH-CCR-M58-0421	J162158-1	pH	7.7 SU	J HT
CH-CCR-M58-0421	J162158-1	Selenium	0.00099 mg/L	J DL
CH-CCR-M62-0421	J162158-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M62-0421	J162158-1	Chromium	0.0012 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code
CH-CCR-M62-0421	J162158-1	Cobalt	0.0010	mg/L	U MB
CH-CCR-M62-0421	J162158-1	Fluoride	0.29	mg/L	J DL
CH-CCR-M62-0421	J162158-1	pH	7.6	SU	J HT
CH-CCR-FD01-0421	J162159-1	pH	7.8	SU	J HT
CH-CCR-M54-0421	J162159-1	pH	7.6	SU	J HT
CH-CCR-M59-0421	J162159-1	pH	7.6	SU	J HT
CH-CCR-M60-0421	J162159-1	pH	7.8	SU	J HT
CH-CCR-M61-0421	J162159-1	pH	7.8	SU	J HT
CH-CCR-P226A-0621	J164785-1	Antimony	0.00024	mg/L	U MB
CH-CCR-P226A-0621	J164785-1	Iron	0.097	mg/L	J DL
CH-CCR-P226A-0621	J164785-1	Iron, Dissolved	0.066	mg/L	J DL
CH-CCR-P226A-0621	J164785-1	Nitrate Nitrite as N	0.16	mg/L	J DL
CH-CCR-P226A-0621	J164785-1	pH	7.6	SU	J HT
CH-CCR-P226A-0621	J164785-1	Thallium	0.000083	mg/L	U MB
CH-CCR-P226B-0621	J164785-1	Antimony	0.00013	mg/L	U MB
CH-CCR-P226B-0621	J164785-1	Chromium	0.00091	mg/L	J DL
CH-CCR-P226B-0621	J164785-1	Iron	0.056	mg/L	J DL
CH-CCR-P226B-0621	J164785-1	Iron, Dissolved	0.060	mg/L	J DL
CH-CCR-P226B-0621	J164785-1	pH	7.7	SU	J HT
CH-CCR-P226B-0621	J164785-1	Thallium	0.000081	mg/L	U MB
CH-CCR-P226C-0621	J164785-1	Antimony	0.00023	mg/L	U MB
CH-CCR-P226C-0621	J164785-1	Chromium	0.00080	mg/L	J DL
CH-CCR-P226C-0621	J164785-1	Iron	0.067	mg/L	J DL
CH-CCR-P226C-0621	J164785-1	Iron, Dissolved	0.064	mg/L	J DL
CH-CCR-P226C-0621	J164785-1	pH	7.7	SU	J HT
CH-CCR-P226C-0621	J164785-1	Thallium	0.000068	mg/L	U MB
CH-CCR-P226D-0621	J164785-1	Antimony	0.00012	mg/L	U MB
CH-CCR-P226D-0621	J164785-1	Iron, Dissolved	0.055	mg/L	J DL
CH-CCR-P226D-0621	J164785-1	pH	7.6	SU	J HT
CH-CCR-P226D-0621	J164785-1	Thallium	0.000041	mg/L	U MB
CH-CCR-P226E-0621	J164785-1	Antimony	0.00035	mg/L	J DL
CH-CCR-P226E-0621	J164785-1	Cobalt	0.0093	mg/L	J TD
CH-CCR-P226E-0621	J164785-1	Cobalt, Dissolved	0.015	mg/L	J TD
CH-CCR-P226E-0621	J164785-1	Iron, Dissolved	0.059	mg/L	J DL
CH-CCR-P226E-0621	J164785-1	pH	7.8	SU	J HT
CH-CCR-P226G-0621	J164785-1	Antimony	0.00074	mg/L	J DL
CH-CCR-P226G-0621	J164785-1	Cobalt	0.0031	mg/L	J TD
CH-CCR-P226G-0621	J164785-1	Cobalt, Dissolved	0.015	mg/L	J TD
CH-CCR-P226G-0621	J164785-1	Fluoride	0.76	mg/L	J DL
CH-CCR-P226G-0621	J164785-1	Iron, Dissolved	0.053	mg/L	J DL
CH-CCR-P226G-0621	J164785-1	Manganese	1.5	mg/L	J TD
CH-CCR-P226G-0621	J164785-1	Manganese, Dissolved	2.4	mg/L	J TD
CH-CCR-P226G-0621	J164785-1	pH	7.8	SU	J HT
CH-CCR-P226G-0621	J164785-1	Thallium	0.000035	mg/L	U MB
CH-CCR-P226H-0621	J164785-1	Antimony	0.00014	mg/L	U MB

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code
CH-CCR-P226H-0621	J164785-1	Fluoride	0.48	mg/L	J DL
CH-CCR-P226H-0621	J164785-1	Iron, Dissolved	0.063	mg/L	J DL
CH-CCR-P226H-0621	J164785-1	pH	7.9	SU	J HT
CH-CCR-P226H-0621	J164785-1	Thallium	0.000017	mg/L	U MB
CH-DEV-MW74M-0921	J171819-1	Total Dissolved Solids	7,000	mg/L	J HT
CH-CCR-BAP-1021	J173411-1	Cadmium	0.000069	mg/L	J DL
CH-CCR-BAP-1021	J173411-1	Iron, Dissolved	0.054	mg/L	J DL
CH-CCR-BAP-1021	J173411-1	pH	8.4	SU	J HT
CH-CCR-BAP-1021	J173411-1	Thallium	0.000073	mg/L	J DL
CH-CCR-BAPTD-1021	J173411-1	Antimony	0.0020	mg/L	U MB
CH-CCR-BAPTD-1021	J173411-1	Arsenic	0.0016	mg/L	U MB
CH-CCR-BAPTD-1021	J173411-1	Chromium	0.00099	mg/L	J DL
CH-CCR-BAPTD-1021	J173411-1	Lead	0.00080	mg/L	J DL
CH-CCR-BAPTD-1021	J173411-1	pH	7.5	SU	J HT
CH-CCR-FD03-1021	J173411-1	Antimony	0.0020	mg/L	U MB
CH-CCR-FD03-1021	J173411-1	Cadmium	0.000084	mg/L	J DL
CH-CCR-FD03-1021	J173411-1	Fluoride	0.51	mg/L	J DL
CH-CCR-FD03-1021	J173411-1	Iron	0.23	mg/L	U MB
CH-CCR-FD03-1021	J173411-1	pH	7.4	SU	J HT
CH-CCR-FD03-1021	J173411-1	Thallium	0.00020	mg/L	U MB
CH-CCR-FD03-1021	J173411-1	Total Dissolved Solids	7,300	mg/L	J HT
CH-CCR-FD04-1021	J173411-1	Antimony	0.0010	mg/L	U MB
CH-CCR-FD04-1021	J173411-1	Barium	0.022	mg/L	J FD
CH-CCR-FD04-1021	J173411-1	Chromium	0.0092	mg/L	U MB
CH-CCR-FD04-1021	J173411-1	Dissolved Organic Carbon	1.3	mg/L	U MB
CH-CCR-FD04-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.2	mg/L	U MB
CH-CCR-FD04-1021	J173411-1	Dissolved Organic Carbon - Quad	1.3	mg/L	U MB
CH-CCR-FD04-1021	J173411-1	Fluoride	0.55	mg/L	J DL
CH-CCR-FD04-1021	J173411-1	pH	7.3	SU	J HT
CH-CCR-FD04-1021	J173411-1	Thallium	0.000054	mg/L	J DL
CH-CCR-M52-1021	J173411-1	Arsenic	0.00057	mg/L	J DL
CH-CCR-M52-1021	J173411-1	Dissolved Organic Carbon	1.5	mg/L	J LM
CH-CCR-M52-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.5	mg/L	J LM
CH-CCR-M52-1021	J173411-1	Dissolved Organic Carbon - Quad	1.5	mg/L	J LM
CH-CCR-M52-1021	J173411-1	pH	7.3	SU	J HT
CH-CCR-M52-1021	J173411-1	Thallium	0.00019	mg/L	J DL
CH-CCR-M53-1021	J173411-1	Antimony	0.0020	mg/L	U MB
CH-CCR-M53-1021	J173411-1	Chromium	0.0018	mg/L	J DL
CH-CCR-M53-1021	J173411-1	Dissolved Organic Carbon	1.2	mg/L	UJ MB, LM
CH-CCR-M53-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.2	mg/L	UJ MB, LM
CH-CCR-M53-1021	J173411-1	Dissolved Organic Carbon - Quad	1.2	mg/L	UJ MB, LM
CH-CCR-M53-1021	J173411-1	Iron	0.10	mg/L	U MB
CH-CCR-M53-1021	J173411-1	Iron, Dissolved	0.037	mg/L	J DL
CH-CCR-M53-1021	J173411-1	Lead	0.00048	mg/L	J DL
CH-CCR-M53-1021	J173411-1	pH	7.5	SU	J HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-M55-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M55-1021	J173411-1	Cadmium	0.000052 mg/L	J DL
CH-CCR-M55-1021	J173411-1	Cobalt	0.00020 mg/L	J DL
CH-CCR-M55-1021	J173411-1	Cobalt, Dissolved	0.00011 mg/L	J DL
CH-CCR-M55-1021	J173411-1	Fluoride	0.59 mg/L	J DL
CH-CCR-M55-1021	J173411-1	Iron	0.23 mg/L	U MB
CH-CCR-M55-1021	J173411-1	Iron, Dissolved	0.042 mg/L	J DL
CH-CCR-M55-1021	J173411-1	Manganese	0.010 mg/L	U MB
CH-CCR-M55-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-M55-1021	J173411-1	Thallium	0.00017 mg/L	J DL
CH-CCR-M69-1021	J173411-1	Ammonia	0.039 mg/L	J DL
CH-CCR-M69-1021	J173411-1	Arsenic	0.00096 mg/L	J DL
CH-CCR-M69-1021	J173411-1	Cadmium	0.00016 mg/L	J DL
CH-CCR-M69-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-M69-1021	J173411-1	pH	7.3 SU	J HT
CH-CCR-M69-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-M70-1021	J173411-1	Ammonia	0.041 mg/L	J DL
CH-CCR-M70-1021	J173411-1	Chromium	0.0018 mg/L	J DL
CH-CCR-M70-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-M70-1021	J173411-1	Iron, Dissolved	0.065 mg/L	J DL
CH-CCR-M70-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-M70-1021	J173411-1	Thallium	0.000092 mg/L	J DL
CH-CCR-M71-1021	J173411-1	Arsenic	0.00092 mg/L	J DL
CH-CCR-M71-1021	J173411-1	Chromium	0.0011 mg/L	J DL
CH-CCR-M71-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-M71-1021	J173411-1	Iron, Dissolved	0.051 mg/L	J DL
CH-CCR-M71-1021	J173411-1	pH	7.6 SU	J HT
CH-CCR-M71-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-M72-1021	J173411-1	Antimony	0.00068 mg/L	J DL
CH-CCR-M72-1021	J173411-1	Fluoride	0.098 mg/L	J DL
CH-CCR-M72-1021	J173411-1	Iron	0.20 mg/L	U MB
CH-CCR-M72-1021	J173411-1	Iron, Dissolved	0.095 mg/L	J DL
CH-CCR-M72-1021	J173411-1	pH	7.1 SU	J HT
CH-CCR-M73-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M73-1021	J173411-1	Cadmium	0.00015 mg/L	J DL
CH-CCR-M73-1021	J173411-1	Chromium	0.0015 mg/L	J DL
CH-CCR-M73-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-M73-1021	J173411-1	Iron, Dissolved	0.088 mg/L	J DL
CH-CCR-M73-1021	J173411-1	pH	7.3 SU	J HT
CH-CCR-M73-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-M74-1021	J173411-1	Chromium	0.0019 mg/L	J DL
CH-CCR-M74-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-M74-1021	J173411-1	Thallium	0.00014 mg/L	J DL
CH-CCR-M77-1021	J173411-1	Chromium	0.0013 mg/L	J DL
CH-CCR-M77-1021	J173411-1	Fluoride	0.32 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-M77-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-M77-1021	J173411-1	Iron, Dissolved	0.048 mg/L	J DL
CH-CCR-M77-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-M77-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-M78-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-M78-1021	J173411-1	Fluoride	0.36 mg/L	J DL
CH-CCR-M78-1021	J173411-1	Iron	0.30 mg/L	U MB
CH-CCR-M78-1021	J173411-1	pH	7.3 SU	J HT
CH-CCR-M78-1021	J173411-1	Thallium	0.000080 mg/L	J DL
CH-CCR-M79-1021	J173411-1	Fluoride	0.51 mg/L	J DL
CH-CCR-M79-1021	J173411-1	Iron	0.24 mg/L	U MB
CH-CCR-M79-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-M79-1021	J173411-1	pH	7.3 SU	J HT
CH-CCR-M79-1021	J173411-1	Total Dissolved Solids	6,900 mg/L	J HT
CH-CCR-Petroglyph-1021	J173411-1	Antimony	0.00052 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	Cadmium	0.00018 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	Iron	0.059 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	Iron, Dissolved	0.051 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	Nitrate Nitrite as N	0.20 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-Petroglyph-1021	J173411-1	Thallium	0.000056 mg/L	J DL
CH-CCR-Petroglyph-1021	J173411-1	Total Organic Carbon	1.1 mg/L	U MB
CH-CCR-TanWash-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-TanWash-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-TanWash-1021	J173411-1	Thallium	0.000030 mg/L	J DL
CH-CCR-TWX10-1021	J173411-1	Antimony	0.00044 mg/L	J DL
CH-CCR-TWX10-1021	J173411-1	Fluoride	0.62 mg/L	J DL
CH-CCR-TWX10-1021	J173411-1	pH	7.6 SU	J HT
CH-CCR-TWX3-1021	J173411-1	Iron, Dissolved	0.071 mg/L	J DL
CH-CCR-TWX3-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-TWX3-1021	J173411-1	Thallium	0.000092 mg/L	J DL
CH-CCR-TWX3-1021	J173411-1	Total Organic Carbon	1.1 mg/L	U MB
CH-CCR-TWX4-1021	J173411-1	Antimony	0.00038 mg/L	J DL
CH-CCR-TWX4-1021	J173411-1	Iron, Dissolved	0.090 mg/L	J DL
CH-CCR-TWX4-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-TWX4-1021	J173411-1	pH	7.6 SU	J HT
CH-CCR-TWX5-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-TWX5-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-TWX5-1021	J173411-1	Thallium	0.00010 mg/L	J DL
CH-CCR-TWX5-1021	J173411-1	Total Organic Carbon	1.0 mg/L	U MB
CH-CCR-TWX6-1021	J173411-1	Antimony	0.00048 mg/L	J DL
CH-CCR-TWX6-1021	J173411-1	Dissolved Organic Carbon	1.1 mg/L	U MB
CH-CCR-TWX6-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.1 mg/L	U MB
CH-CCR-TWX6-1021	J173411-1	Dissolved Organic Carbon - Quad	1.1 mg/L	U MB
CH-CCR-TWX6-1021	J173411-1	Iron, Dissolved	0.060 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-TWX6-1021	J173411-1	Lead	0.00090 mg/L	J DL
CH-CCR-TWX6-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-TWX6-1021	J173411-1	Selenium	0.0015 mg/L	J DL
CH-CCR-TWX6-1021	J173411-1	Total Organic Carbon	1.1 mg/L	U MB
CH-CCR-TWX7-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-TWX7-1021	J173411-1	Dissolved Organic Carbon	1.6 mg/L	U MB
CH-CCR-TWX7-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.6 mg/L	U MB
CH-CCR-TWX7-1021	J173411-1	Dissolved Organic Carbon - Quad	1.6 mg/L	U MB
CH-CCR-TWX7-1021	J173411-1	pH	7.7 SU	J HT
CH-CCR-TWX7-1021	J173411-1	Selenium	0.0018 mg/L	J DL
CH-CCR-TWX7-1021	J173411-1	Thallium	0.00010 mg/L	J DL
CH-CCR-TWX8-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-TWX8-1021	J173411-1	Arsenic	0.0017 mg/L	J DL
CH-CCR-TWX8-1021	J173411-1	Arsenic, Dissolved	0.0018 mg/L	U MB
CH-CCR-TWX8-1021	J173411-1	Dissolved Organic Carbon	1.4 mg/L	U MB
CH-CCR-TWX8-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.4 mg/L	U MB
CH-CCR-TWX8-1021	J173411-1	Dissolved Organic Carbon - Quad	1.4 mg/L	U MB
CH-CCR-TWX8-1021	J173411-1	Iron	0.050 mg/L	J DL
CH-CCR-TWX8-1021	J173411-1	Iron, Dissolved	0.035 mg/L	J DL
CH-CCR-TWX8-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-TWX8-1021	J173411-1	Total Organic Carbon	1.2 mg/L	U MB
CH-CCR-TWX9-1021	J173411-1	Antimony	0.00092 mg/L	J DL
CH-CCR-TWX9-1021	J173411-1	pH	7.7 SU	J HT
CH-CCR-TWX9-1021	J173411-1	Thallium	0.000096 mg/L	J DL
CH-CCR-W301-1021	J173411-1	Antimony	0.0020 mg/L	U MB
CH-CCR-W301-1021	J173411-1	Cadmium	0.00017 mg/L	J DL
CH-CCR-W301-1021	J173411-1	Fluoride	0.13 mg/L	J DL
CH-CCR-W301-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-W301-1021	J173411-1	Iron, Dissolved	0.039 mg/L	J DL
CH-CCR-W301-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-W301-1021	J173411-1	Thallium	0.000086 mg/L	J DL
CH-CCR-W302-1021	J173411-1	Fluoride	0.72 mg/L	J DL
CH-CCR-W302-1021	J173411-1	Iron	0.16 mg/L	U MB
CH-CCR-W302-1021	J173411-1	Iron, Dissolved	0.063 mg/L	J DL
CH-CCR-W302-1021	J173411-1	pH	7.4 SU	J HT
CH-CCR-W302-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-W303-1021	J173411-1	Ammonia	0.040 mg/L	J DL
CH-CCR-W303-1021	J173411-1	Fluoride	0.32 mg/L	J DL
CH-CCR-W303-1021	J173411-1	Iron	0.10 mg/L	U MB
CH-CCR-W303-1021	J173411-1	Iron, Dissolved	0.062 mg/L	J DL
CH-CCR-W303-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-W303-1021	J173411-1	Thallium	0.00020 mg/L	U MB
CH-CCR-W304-1021	J173411-1	Arsenic	0.00098 mg/L	J DL
CH-CCR-W304-1021	J173411-1	Cadmium	0.000046 mg/L	J DL
CH-CCR-W304-1021	J173411-1	Fluoride	0.16 mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
CH-CCR-W304-1021	J173411-1	Iron	0.19	mg/L	U	MB
CH-CCR-W304-1021	J173411-1	pH	7.5	SU	J	HT
CH-CCR-W304-1021	J173411-1	Thallium	0.00020	mg/L	U	MB
CH-CCR-W305-1021	J173411-1	Cadmium	0.000066	mg/L	J	DL
CH-CCR-W305-1021	J173411-1	Fluoride	0.32	mg/L	J	DL
CH-CCR-W305-1021	J173411-1	Iron	0.24	mg/L	U	MB
CH-CCR-W305-1021	J173411-1	pH	7.4	SU	J	HT
CH-CCR-W306-1021	J173411-1	Antimony	0.0020	mg/L	U	MB
CH-CCR-W306-1021	J173411-1	Iron	0.10	mg/L	U	MB
CH-CCR-W306-1021	J173411-1	Iron, Dissolved	0.083	mg/L	J	DL
CH-CCR-W306-1021	J173411-1	Lead	0.00067	mg/L	J	DL
CH-CCR-W306-1021	J173411-1	pH	7.9	SU	J	HT
CH-CCR-W306-1021	J173411-1	Thallium	0.00020	mg/L	U	MB
CH-CCR-W307R-1021	J173411-1	Antimony	0.0020	mg/L	U	MB
CH-CCR-W307R-1021	J173411-1	Barium	0.028	mg/L	J	FD
CH-CCR-W307R-1021	J173411-1	Fluoride	0.56	mg/L	J	DL
CH-CCR-W307R-1021	J173411-1	Iron	0.33	mg/L	U	MB
CH-CCR-W307R-1021	J173411-1	pH	7.4	SU	J	HT
CH-CCR-W307R-1021	J173411-1	Thallium	0.00020	mg/L	U	MB
CH-CCR-W308-1021	J173411-1	Antimony	0.0010	mg/L	U	MB
CH-CCR-W308-1021	J173411-1	Arsenic	0.0013	mg/L	U	MB
CH-CCR-W308-1021	J173411-1	Cadmium	0.000040	mg/L	J	DL
CH-CCR-W308-1021	J173411-1	Dissolved Organic Carbon	1.2	mg/L	J	LM, MD
CH-CCR-W308-1021	J173411-1	Dissolved Organic Carbon - Duplicate	1.2	mg/L	J	LM, MD
CH-CCR-W308-1021	J173411-1	Dissolved Organic Carbon - Quad	1.2	mg/L	J	LM, MD
CH-CCR-W308-1021	J173411-1	Fluoride	0.54	mg/L	J	DL
CH-CCR-W308-1021	J173411-1	pH	7.3	SU	J	HT
CH-CCR-W309-1021	J173411-1	Antimony	0.0010	mg/L	U	MB
CH-CCR-W309-1021	J173411-1	Arsenic	0.0013	mg/L	U	MB
CH-CCR-W309-1021	J173411-1	Cadmium	0.000059	mg/L	J	DL
CH-CCR-W309-1021	J173411-1	Cobalt	0.00050	mg/L	U	MB
CH-CCR-W309-1021	J173411-1	Cobalt, Dissolved	0.00020	mg/L	J	DL
CH-CCR-W309-1021	J173411-1	Iron	0.059	mg/L	J	DL
CH-CCR-W309-1021	J173411-1	Iron, Dissolved	0.040	mg/L	J	DL
CH-CCR-W309-1021	J173411-1	pH	7.5	SU	J	HT
CH-CCR-W309-1021	J173411-1	pH	7.5	SU	J	HT
CH-CCR-W309-1021	J173411-1	Thallium	0.000094	mg/L	J	DL
CH-CCR-W314-1021	J173411-1	Antimony	0.0010	mg/L	U	MB
CH-CCR-W314-1021	J173411-1	Arsenic	0.0013	mg/L	U	MB
CH-CCR-W314-1021	J173411-1	Arsenic, Dissolved	0.0017	mg/L	U	MB
CH-CCR-W314-1021	J173411-1	Iron	0.073	mg/L	J	DL
CH-CCR-W314-1021	J173411-1	Iron, Dissolved	0.058	mg/L	J	DL
CH-CCR-W314-1021	J173411-1	pH	7.4	SU	J	HT
CH-CCR-W314-1021	J173411-1	Thallium	0.000021	mg/L	J	DL
CH-CCR-W317-1021	J173411-1	Antimony	0.0010	mg/L	U	MB

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-W317-1021	J173411-1	Boron	0.20 mg/L	U MB
CH-CCR-W317-1021	J173411-1	Cadmium	0.000039 mg/L	J DL
CH-CCR-W317-1021	J173411-1	Cobalt	0.00050 mg/L	U MB
CH-CCR-W317-1021	J173411-1	Fluoride	0.34 mg/L	J DL
CH-CCR-W317-1021	J173411-1	pH	7.5 SU	J HT
CH-CCR-W317-1021	J173411-1	Total Dissolved Solids	3,600 mg/L	J HT
CH-CCR-W317-1021	J173411-1	Total Dissolved Solids	3,740 mg/L	J HT
CH-CCR-CR1R-1021	J173423-1	Antimony	0.000075 mg/L	J DL
CH-CCR-CR1R-1021	J173423-1	Cadmium	0.000061 mg/L	J DL
CH-CCR-CR1R-1021	J173423-1	Cobalt	0.000076 mg/L	J DL
CH-CCR-CR1R-1021	J173423-1	Fluoride	0.36 mg/L	J DL
CH-CCR-CR1R-1021	J173423-1	pH	7.9 SU	J HT
CH-CCR-CR1R-1021	J173423-1	Selenium	0.00025 mg/L	J DL, FD
CH-CCR-CR1R-1021	J173423-1	Thallium	0.00038 mg/L	J FD
CH-CCR-CR1R-1021	J173423-1	Total Dissolved Solids	1,500 mg/L	J HT
CH-CCR-FD02-1021	J173423-1	Barium	0.082 mg/L	J NQ
CH-CCR-FD02-1021	J173423-1	Fluoride	0.40 mg/L	J DL
CH-CCR-FD02-1021	J173423-1	pH	7.9 SU	J HT
CH-CCR-FD02-1021	J173423-1	Selenium	0.00078 mg/L	J FD
CH-CCR-FD02-1021	J173423-1	Thallium	0.00010 mg/L	UJ FD
CH-CCR-FD02-1021	J173423-1	Total Dissolved Solids	1,600 mg/L	J HT
CH-CCR-M56-1021	J173423-1	Antimony	0.00022 mg/L	J DL
CH-CCR-M56-1021	J173423-1	Fluoride	0.41 mg/L	J DL
CH-CCR-M56-1021	J173423-1	pH	7.5 SU	J HT
CH-CCR-M56-1021	J173423-1	Thallium	0.000098 mg/L	J DL
CH-CCR-M56-1021	J173423-1	Total Dissolved Solids	4,700 mg/L	J HT
CH-CCR-M57-1021	J173423-1	Antimony	0.00011 mg/L	J DL
CH-CCR-M57-1021	J173423-1	Fluoride	0.38 mg/L	J DL
CH-CCR-M57-1021	J173423-1	pH	7.2 SU	J HT
CH-CCR-M57-1021	J173423-1	Thallium	0.000060 mg/L	J DL
CH-CCR-M57-1021	J173423-1	Total Dissolved Solids	4,900 mg/L	J HT
CH-CCR-M58-1021	J173423-1	Cobalt	0.00024 mg/L	J DL
CH-CCR-M58-1021	J173423-1	Fluoride	0.34 mg/L	J DL
CH-CCR-M58-1021	J173423-1	pH	7.6 SU	J HT
CH-CCR-M58-1021	J173423-1	Thallium	0.000020 mg/L	J DL
CH-CCR-M58-1021	J173423-1	Total Dissolved Solids	4,500 mg/L	J HT
CH-CCR-M62-1021	J173423-1	Antimony	0.00018 mg/L	J DL
CH-CCR-M62-1021	J173423-1	Beryllium	0.00016 mg/L	J DL
CH-CCR-M62-1021	J173423-1	Fluoride	0.35 mg/L	J DL
CH-CCR-M62-1021	J173423-1	pH	7.5 SU	J HT
CH-CCR-M62-1021	J173423-1	Thallium	0.000048 mg/L	J DL
CH-CCR-M62-1021	J173423-1	Total Dissolved Solids	4,900 mg/L	J HT
CH-CCR-FD01-1021	J173427-1	pH	7.6 SU	J HT
CH-CCR-FD01-1021	J173427-1	Total Dissolved Solids	3,000 mg/L	J HT
CH-CCR-M54-1021	J173427-1	pH	7.7 SU	J HT

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code	
CH-CCR-M54-1021	J173427-1	Total Dissolved Solids	2,700	mg/L	J	HT
CH-CCR-M59-1021	J173427-1	pH	7.7	SU	J	HT
CH-CCR-M59-1021	J173427-1	Total Dissolved Solids	2,300	mg/L	J	HT
CH-CCR-M60-1021	J173427-1	pH	7.6	SU	J	HT
CH-CCR-M60-1021	J173427-1	Total Dissolved Solids	2,900	mg/L	J	HT
CH-CCR-M61-1021	J173427-1	pH	7.6	SU	J	HT
CH-CCR-M61-1021	J173427-1	Total Dissolved Solids	3,200	mg/L	J	HT
CH-CCR-FAP-1021	J173429-1	Beryllium	0.013	mg/L	J	DL
CH-CCR-FAP-1021	J173429-1	Cadmium	0.0009	mg/L	J	DL
CH-CCR-FAP-1021	J173429-1	Chromium	0.0099	mg/L	J	DL
CH-CCR-FAP-1021	J173429-1	pH	5.8	SU	J	HT
CH-CCR-FAP-1021	J173429-1	Thallium	0.00051	mg/L	J	DL
CH-CCR-FD05-1021	J173429-1	Antimony	0.000096	mg/L	J	DL
CH-CCR-FD05-1021	J173429-1	Arsenic	0.0038	mg/L	J	FD
CH-CCR-FD05-1021	J173429-1	Fluoride	0.53	mg/L	J	DL
CH-CCR-FD05-1021	J173429-1	pH	7.7	SU	J	HT
CH-CCR-FD05-1021	J173429-1	Total Dissolved Solids	1,600	mg/L	J	HT
CH-CCR-FD06-1021	J173429-1	Antimony	0.000069	mg/L	J	DL
CH-CCR-FD06-1021	J173429-1	Arsenic	0.00093	mg/L	J	FD
CH-CCR-FD06-1021	J173429-1	Boron	0.43	mg/L	J	FD
CH-CCR-FD06-1021	J173429-1	Chromium	0.00044	mg/L	J	DL
CH-CCR-FD06-1021	J173429-1	Fluoride	0.66	mg/L	J	DL
CH-CCR-FD06-1021	J173429-1	Molybdenum	0.0032	mg/L	J	FD
CH-CCR-FD06-1021	J173429-1	Sulfate	410	mg/L	J	FD
CH-CCR-M43-1021	J173429-1	Ammonia	0.35	mg/L	J	HM
CH-CCR-M43-1021	J173429-1	Antimony	0.00026	mg/L	J	DL
CH-CCR-M43-1021	J173429-1	Cobalt	0.00039	mg/L	J	DL
CH-CCR-M43-1021	J173429-1	Dissolved Organic Carbon	1.4	mg/L	U	MB
CH-CCR-M43-1021	J173429-1	Dissolved Organic Carbon - Duplicate	1.4	mg/L	U	MB
CH-CCR-M43-1021	J173429-1	Dissolved Organic Carbon - Quad	1.4	mg/L	U	MB
CH-CCR-M43-1021	J173429-1	Fluoride	0.20	mg/L	J	DL
CH-CCR-M43-1021	J173429-1	pH	7.4	SU	J	HT
CH-CCR-M43-1021	J173429-1	Total Dissolved Solids	6,200	mg/L	J	HT
CH-CCR-M44D-1021	J173429-1	Antimony	0.000071	mg/L	J	DL
CH-CCR-M44D-1021	J173429-1	Arsenic	0.0016	mg/L	UJ	MB, FD
CH-CCR-M44D-1021	J173429-1	Boron	0.24	mg/L	J	FD
CH-CCR-M44D-1021	J173429-1	Cadmium	0.000043	mg/L	J	DL
CH-CCR-M44D-1021	J173429-1	Fluoride	0.76	mg/L	J	DL
CH-CCR-M44D-1021	J173429-1	Molybdenum	0.0021	mg/L	J	FD
CH-CCR-M44D-1021	J173429-1	pH	7.1	SU	J	HT
CH-CCR-M44D-1021	J173429-1	Selenium	0.00019	mg/L	J	DL
CH-CCR-M44D-1021	J173429-1	Sulfate	330	mg/L	J	FD
CH-CCR-M44D-1021	J173429-1	Total Dissolved Solids	2,200	mg/L	J	HT
CH-CCR-M45-1021	J173429-1	Antimony	0.000049	mg/L	J	DL
CH-CCR-M45-1021	J173429-1	Fluoride	0.57	mg/L	J	DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result		Qualifier and Reason Code
CH-CCR-M45-1021	J173429-1	pH	7.1	SU	J HT
CH-CCR-M45-1021	J173429-1	Thallium	0.000057	mg/L	J DL
CH-CCR-M45-1021	J173429-1	Total Dissolved Solids	4,200	mg/L	J HT
CH-CCR-M46-1021	J173429-1	Antimony	0.00010	mg/L	J DL
CH-CCR-M46-1021	J173429-1	Cadmium	0.000051	mg/L	J DL
CH-CCR-M46-1021	J173429-1	pH	7.1	SU	J HT
CH-CCR-M46-1021	J173429-1	Thallium	0.000052	mg/L	J DL
CH-CCR-M46-1021	J173429-1	Total Dissolved Solids	12,000	mg/L	J HT
CH-CCR-M50-1021	J173429-1	Antimony	0.00010	mg/L	J DL
CH-CCR-M50-1021	J173429-1	Cadmium	0.000032	mg/L	J DL
CH-CCR-M50-1021	J173429-1	Iron	0.087	mg/L	J DL
CH-CCR-M50-1021	J173429-1	Iron, Dissolved	0.037	mg/L	J DL
CH-CCR-M50-1021	J173429-1	pH	7.4	SU	J HT
CH-CCR-M50-1021	J173429-1	Thallium	0.000094	mg/L	J DL
CH-CCR-M50-1021	J173429-1	Total Dissolved Solids	7,200	mg/L	J HT
CH-CCR-M51-1021	J173429-1	Antimony	0.00010	mg/L	J DL
CH-CCR-M51-1021	J173429-1	Cobalt	0.0015	mg/L	J DL
CH-CCR-M51-1021	J173429-1	Iron	0.039	mg/L	J DL
CH-CCR-M51-1021	J173429-1	Iron, Dissolved	0.037	mg/L	J DL
CH-CCR-M51-1021	J173429-1	pH	7.3	SU	J HT
CH-CCR-M51-1021	J173429-1	Total Dissolved Solids	11,000	mg/L	J HT
CH-CCR-M63-1021	J173429-1	Antimony	0.000081	mg/L	J DL
CH-CCR-M63-1021	J173429-1	Cadmium	0.000034	mg/L	J DL
CH-CCR-M63-1021	J173429-1	Fluoride	0.25	mg/L	J DL
CH-CCR-M63-1021	J173429-1	pH	7.6	SU	J HT
CH-CCR-M63-1021	J173429-1	Selenium	0.00011	mg/L	J DL
CH-CCR-M63-1021	J173429-1	Thallium	0.000045	mg/L	J DL
CH-CCR-M63-1021	J173429-1	Total Dissolved Solids	1,500	mg/L	J HT
CH-CCR-M64-1021	J173429-1	Antimony	0.00013	mg/L	J DL
CH-CCR-M64-1021	J173429-1	Arsenic	0.00050	mg/L	U MB
CH-CCR-M64-1021	J173429-1	Cadmium	0.000036	mg/L	J DL
CH-CCR-M64-1021	J173429-1	Chromium	0.00050	mg/L	J DL
CH-CCR-M64-1021	J173429-1	Cobalt, Dissolved	0.000091	mg/L	J DL
CH-CCR-M64-1021	J173429-1	Dissolved Organic Carbon	4.5	mg/L	J LM,HD
CH-CCR-M64-1021	J173429-1	Dissolved Organic Carbon - Duplicate	4.5	mg/L	J LM,HD
CH-CCR-M64-1021	J173429-1	Dissolved Organic Carbon - Quad	4.5	mg/L	J LM,HD
CH-CCR-M64-1021	J173429-1	Fluoride	0.38	mg/L	J DL
CH-CCR-M64-1021	J173429-1	pH	7.4	SU	J HT
CH-CCR-M64-1021	J173429-1	pH	7.4	SU	J HT
CH-CCR-M64-1021	J173429-1	Selenium	0.00020	mg/L	J DL
CH-CCR-M64-1021	J173429-1	Total Dissolved Solids	11,400	mg/L	J HT
CH-CCR-M64-1021	J173429-1	Total Dissolved Solids	11,000	mg/L	J HT
CH-CCR-M65-1021	J173429-1	Antimony	0.000085	mg/L	J DL
CH-CCR-M65-1021	J173429-1	Arsenic	0.0024	mg/L	U MB
CH-CCR-M65-1021	J173429-1	Cadmium	0.000083	mg/L	J DL

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-M65-1021	J173429-1	Lead	0.00037 mg/L	J DL
CH-CCR-M65-1021	J173429-1	pH	7.0 SU	J HT
CH-CCR-M65-1021	J173429-1	Thallium	0.000021 mg/L	J DL
CH-CCR-M65-1021	J173429-1	Total Dissolved Solids	9,200 mg/L	J HT
CH-CCR-M66-1021	J173429-1	Antimony	0.000094 mg/L	J DL
CH-CCR-M66-1021	J173429-1	Arsenic	0.00097 mg/L	U MB
CH-CCR-M66-1021	J173429-1	Lead	0.00029 mg/L	J DL
CH-CCR-M66-1021	J173429-1	pH	7.4 SU	J HT
CH-CCR-M66-1021	J173429-1	Total Dissolved Solids	11,000 mg/L	J HT
CH-CCR-M67-1021	J173429-1	Antimony	0.000051 mg/L	J DL
CH-CCR-M67-1021	J173429-1	Chromium	0.00051 mg/L	J DL
CH-CCR-M67-1021	J173429-1	pH	7.1 SU	J HT
CH-CCR-M67-1021	J173429-1	Selenium	0.00043 mg/L	J DL
CH-CCR-M67-1021	J173429-1	Thallium	0.000036 mg/L	J DL
CH-CCR-M67-1021	J173429-1	Total Dissolved Solids	10,000 mg/L	J HT
CH-CCR-W123R-1021	J173429-1	Antimony	0.00020 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	Cadmium	0.000057 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	Iron	0.058 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	Iron, Dissolved	0.043 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	Lead	0.00028 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	Nitrate Nitrite as N	0.17 mg/L	J DL
CH-CCR-W123R-1021	J173429-1	pH	7.6 SU	J HT
CH-CCR-W123R-1021	J173429-1	pH	7.6 SU	J HT
CH-CCR-W123R-1021	J173429-1	Total Dissolved Solids	11,000 mg/L	J HT
CH-CCR-W125-1021	J173429-1	Antimony	0.000066 mg/L	J DL
CH-CCR-W125-1021	J173429-1	Arsenic	0.0051 mg/L	J FD
CH-CCR-W125-1021	J173429-1	Fluoride	0.56 mg/L	J DL
CH-CCR-W125-1021	J173429-1	pH	7.7 SU	J HT
CH-CCR-W125-1021	J173429-1	Selenium	0.00011 mg/L	J DL
CH-CCR-W125-1021	J173429-1	Thallium	0.000015 mg/L	J DL
CH-CCR-W125-1021	J173429-1	Total Dissolved Solids	1,700 mg/L	J HT
CH-CCR-W126R-1021	J173429-1	Antimony	0.00014 mg/L	J DL
CH-CCR-W126R-1021	J173429-1	Arsenic	0.00079 mg/L	U MB
CH-CCR-W126R-1021	J173429-1	Cadmium	0.000070 mg/L	J DL
CH-CCR-W126R-1021	J173429-1	Iron, Dissolved	0.071 mg/L	J DL
CH-CCR-W126R-1021	J173429-1	pH	7.5 SU	J HT
CH-CCR-W126R-1021	J173429-1	Total Dissolved Solids	12,000 mg/L	J HT
CH-CCR-FD05-1021	RSE	Radium 226	2.0 pCi/L	J FD
CH-CCR-FD05-1021	RSE	Radium 228	1.9 pCi/L	J FD
CH-CCR-FD05-1021	RSE	Total Radium	3.9 pCi/L	J FD
CH-CCR-FD06-1021	RSE	Radium 226	2.5 pCi/L	J FD
CH-CCR-M44D-1021	RSE	Radium 226	3.4 pCi/L	J FD
CH-CCR-W125-1021	RSE	Radium 226	1.4 pCi/L	J FD
CH-CCR-W125-1021	RSE	Radium 228	0.90 pCi/L	J FD
CH-CCR-W125-1021	RSE	Total Radium	2.3 pCi/L	J FD

TABLE 3
QUALIFIERS ADDED DURING DATA VALIDATION
Coal Combustion Residuals Rule
2021 Compliance Monitoring Groundwater Data

Sample Identification	Sample Delivery Group	Analyte	Result	Qualifier and Reason Code
CH-CCR-M54-1021	J173427-1	Sulfate (re-analysis)	400 mg/L	J HT
CH-CCR-M54-1021	J173427-1	Sulfate (re-analysis duplicate)	390 mg/L	J HT
CH-CCR-M59-1021	J173427-1	Sulfate (re-analysis)	390 mg/L	J HT
CH-CCR-M59-1021	J173427-1	Sulfate (re-analysis duplicate)	370 mg/L	J HT
CH-CCR-M60-1021	J173427-1	Sulfate (re-analysis)	390 mg/L	J HT
CH-CCR-M60-1021	J173427-1	Sulfate (re-analysis duplicate)	380 mg/L	J HT
CH-CCR-M61-1021	J173427-1	Sulfate (re-analysis)	400 mg/L	J HT
CH-CCR-M61-1021	J173427-1	Sulfate (re-analysis duplicate)	390 mg/L	J HT
CH-CCR-FD01-1021	J173427-1	Sulfate (re-analysis)	400 mg/L	J HT
CH-CCR-FD01-1021	J173427-1	Sulfate (re-analysis duplicate)	380 mg/L	J HT

Notes:
mg/L = milligrams per liter
S.U. = standard units
pCi/L = picoCuries per liter

Qualifiers:
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

Reason Codes:
DL = The detected concentrations is less than the reporting limit.
FD = Imprecision between primary and field duplicate results. Potential sampling and/or anaytical imprecision.
HD = High laboratory duplicte relative percent difference.
HL = High LCS recovery. Result may be biased high.
HM = High matrix spike recovery. Result may be biased high.
HT = The maximum recommended hold time was exceeded and the result should be considered an estimated value.
LM = Low matrix spike recovery. Result may be biased low.
MB = The same analyte was detcted in the field sample and its associated blank and the concentration detcted in the sample is less than five times the concentration detected in the blank.
MD = Imprecision between MS and MSD results.
NQ = There was no laboratory control sample associated with this result.
TD = Dissolved result is significantly higher than the total result.

Appendix A

Data Assessment Checklists by Sample Delivery Group

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	--	**Review Date:**	27 May 2021
Validator's Name:	Marie Bevier/Rebecca Enzor	**Reviewed By:**	Denise King/Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52-0421	04/17/21 09:15	66509	
CH-CCR-M53-0421	04/17/21 12:30	66510	
CH-CCR-M55-0421	04/18/21 09:09	66511	
CH-CCR-M69-0421	04/17/21 08:35	66512	
CH-CCR-M70-0421	04/17/21 07:53	66513	
CH-CCR-W301-0421	04/17/21 14:15	66514	
CH-CCR-W302-0421	04/17/21 15:05	66515	
CH-CCR-W303-0421	04/17/21 13:31	66516	
CH-CCR-W304-0421	04/18/21 06:39	66517	
CH-CCR-FD03-0421	04/17/21 12:30	66518	Field duplicate of CH-CCR-M53-0421
CH-CCR-W305-0421	04/17/21 11:17	66519	
CH-CCR-W306-0421	04/17/21 10:07	66520	
CH-CCR-W307-0421	04/18/21 07:30	66521	
CH-CCR-W308-0421	04/18/21 08:25	66522	
CH-CCR-W309-0421	04/18/21 10:03	66523	
CH-CCR-W314-0421	04/16/21 14:45	66524	
CH-CCR-W317-0421	04/14/21 10:27	66525	
CH-CCR-BAP-0421	04/16/21 10:10	66526	
CH-CCR-BAPTD-0421	04/17/21 11:45	66527	
CH-CCR-FD04-0421	04/17/21 11:45	66528	Field duplicate of CH-CCR-BAPTD-0421
CH-CCR-M43-0421	04/14/21 13:14	66529	
CH-CCR-M44D-0421	04/16/21 07:50	66530	
CH-CCR-M45-0421	04/14/21 11:49	66531	
CH-CCR-M46-0421	04/14/21 15:28	66532	
CH-CCR-M50-0421	04/15/21 13:47	66533	
CH-CCR-M51-0421	04/15/21 14:29	66534	
CH-CCR-M63-0421	04/15/21 09:29	66535	
CH-CCR-M64-0421	04/15/21 15:48	66536	
CH-CCR-M65-0421	04/14/21 14:17	66537	
CH-CCR-M66-0421	04/15/21 07:25	66538	
CH-CCR-M67-0421	04/14/21 16:25	66539	
CH-CCR-W123-0421	04/15/21 10:50	66540	
CH-CCR-W125-0421	04/15/21 12:53	66541	
CH-CCR-W126-0421	04/15/21 08:15	66542	
CH-CCR-GeronC-0421	04/15/21 11:30	66543	
CH-CCR-GeronD-0421	04/15/21 12:12	66544	
CH-CCR-HuntB-0421	04/15/21 08:40	66545	
CH-CCR-FD05-0421	04/16/21 07:50	66546	Field duplicate of CH-CCR-M44D-0421

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M44D-0421-MS	04/16/21 07:50	66547	Assessed as CH-CCR-M44D-0421 and CH-CCR-FD05-0421
CH-CCR-M44D-0421-SD	04/16/21 07:50	66548	
CH-CCR-Petroglyph-0421	04/16/21 16:10	66549	
CH-CCR-TanWash-0421	04/16/21 15:35	66550	
CH-CCR-M56-0421	04/14/21 08:08	66551	
CH-CCR-M57-0421	04/14/21 09:06	66552	
CH-CCR-M58-0421	04/14/21 09:45	66553	
CH-CCR-M62-0421	04/14/21 07:24	66554	
CH-CCR-FD02-0421	04/14/21 08:08	66555	Field duplicate of CH-CCR-M56-0421

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M56-0421	CH-CCR-FD02-0421
CH-CCR-M53-0421	CH-CCR-FD03-0421
CH-CCR-BAPTD-0421	CH-CCR-FD04-0421
CH-CCR-M44D-0421	CH-CCR-FD05-0421

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M56-0421 and CH-CCR-FD02-0421					
No detected analytes					
Samples CH-CCR-M53-0421 and CH-CCR-FD03-0421					
No detected analytes					
Samples CH-CCR-BAPTD-0421 and CH-CCR-FD04-0421					
No detected analytes					
Samples CH-CCR-M44D-0421 and CH-CCR-FD05-0421					
Radium 226	0.4 pCi/L	1.9 ± 0.2	1.6 ± 0.2	17%	
Radium 228	0.7 pCi/L	0.9 ± 0.3	1.5 ± 0.4	50%	± RL
Total Radium	0.7 pCi/L	2.8 ± 0.4	3.1 ± 0.4	10%	

Note:

pCi/L = picoCuries per liter
± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	--	**Review Date:**	16 June 2021
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-P226A-0621	6/1/2021 12:12	66750	
CH-CCR-P226B-0621	6/1/2021 12:27	66751	
CH-CCR-P226C-0621	6/1/2021 12:51	66752	
CH-CCR-P226D-0621	6/1/2021 13:03	66753	
CH-CCR-P226E-0621	6/1/2021 13:20	66754	
CH-CCR-P226G-0621	6/1/2021 13:55	66755	
CH-CCR-P226H-0621	6/1/2021 14:21	66756	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No

If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes

Note:

pCi/L = picoCuries per liter
± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-162152-1	**Review Date:**	5 May 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52-0421	4/17/2021 9:15	550-162152-1/2	
CH-CCR-M53-0421	4/17/2021 12:30	550-162152-3/4	
CH-CCR-M55-0421	4/18/2021 9:09	550-162152-5/6	
CH-CCR-M69-0421	4/17/2021 8:35	550-162152-7/8	
CH-CCR-M70-0421	4/17/2021 7:53	550-162152-9/10	
CH-CCR-W301-0421	4/17/2021 14:15	550-162152-11/12	
CH-CCR-W302-0421	4/17/2021 15:05	550-162152-13/14	
CH-CCR-W303-0421	4/17/2021 13:31	550-162152-15/16	
CH-CCR-W304-0421	4/18/2021 6:39	550-162152-17/18	
CH-CCR-W305-0421	4/17/2021 11:17	550-162152-19/20	
CH-CCR-FD03-0421	4/17/2021 12:30	550-162152-21/22	Field duplicate of CH-CCR-M53-0421
CH-CCR-W306-0421	4/17/2021 10:07	550-162152-23/24	
CH-CCR-W307-0421	4/18/2021 7:30	550-162152-25/26	
CH-CCR-W308-0421	4/18/2021 8:25	550-162152-27/28	
CH-CCR-W309-0421	4/18/2021 10:03	550-162152-29/30	
CH-CCR-W314-0421	4/16/2021 14:45	550-162152-31/32	
CH-CCR-W317-0421	4/14/2021 10:27	550-162152-33	
CH-CCR-BAP-0421	4/16/2021 10:10	550-162152-34/35	
CH-CCR-BAPTD-0421	4/17/2021 11:45	550-162152-36/37	
CH-CCR-Petroglyph-0421	4/16/2021 16:10	550-162152-38/39	
CH-CCR-TanWash-0421	4/16/2021 15:35	550-162152-40/41	
CH-CCR-FD04-0421	4/17/2021 11:45	550-162152-42/43	Field duplicate of CH-CCR-BAPTD-0421

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Nitrate/Nitrite, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H^+ B
Total or Dissolved Organic Carbon	General Chemistry	SM 5310B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Two of the five coolers were received at the laboratory at temperatures of 6.3 and 6.4 °C. Wood did not qualify any data based on the minor temperature exceedances because the temperatures rounded to 6 °C.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M52-0421	pH	4 days, 9 hours, 15 minutes	J-HT
CH-CCR-M53-0421	pH	4 days, 8 hours, 23 minutes	J-HT
CH-CCR-M55-0421	pH	5 days, 2 hours, 20 minutes	J-HT
CH-CCR-M69-0421	pH	5 days, 2 hours, 55 minutes	J-HT
CH-CCR-M70-0421	pH	4 days, 6 hours, 45 minutes	J-HT
CH-CCR-W301-0421	pH	4 days, 6 hours	J-HT
CH-CCR-W302-0421	pH	3 days, 9 hours, 21 minutes	J-HT
CH-CCR-W303-0421	pH	4 days, 9 hours, 55 minutes	J-HT
CH-CCR-W304-0421	pH	4 days, 10 hours, 37 minutes	J-HT
CH-CCR-W305-0421	pH	4 days, 4 hours, 15 minutes	J-HT
CH-CCR-FD03-0421	pH	4 days, 3 hours, 25 minutes	J-HT
CH-CCR-W306-0421	pH	4 days, 4 hours, 59 minutes	J-HT
CH-CCR-W307-0421	pH	3 days, 11 hours, 51 minutes	J-HT
CH-CCR-W308-0421	pH	4 days, 7 hours, 13 minutes	J-HT
CH-CCR-W309-0421	pH	4 days, 6 hours	J-HT
CH-CCR-W314-0421	pH	3 days, 11 hours	J-HT
CH-CCR-W317-0421	pH	3 days, 10 hours, 5 minutes	J-HT
CH-CCR-BAP-0421	pH	3 days, 8 hours, 27 minutes	J-HT
CH-CCR-BAPTD-0421	pH	5 days, 3 hours, 45 minutes	J-HT
CH-CCR-Petroglyph-0421	pH	7 days, 8 hours, 3 minutes	J-HT
CH-CCR-TanWash-0421	pH	5 days, 8 hours, 20 minutes	J-HT
CH-CCR-FD04-0421	pH	4 days, 6 hours, 45 minutes	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

6. Target analytes detected in the blank? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Beryllium	0.0000900 mg/L		
Boron	0.00313 mg/L		
Calcium	0.0194 mg/L		
Manganese	0.000460 mg/L		
Sodium	0.435 mg/L		
Beryllium	0.000110 mg/L		
Potassium	0.200 mg/L		
Manganese	0.00100 mg/L		
Molybdenum	0.000261 mg/L		
Thallium	0.0000240 mg/L		
Cobalt	0.0000800 mg/L	CH-CCR-W309-0421 (Dissolved)	U-MB

Note:

MB = The analyte was detected in the laboratory blank, and the concentration detected in the sample is less than five times the concentration detected in the blank.

7. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	Affected Samples

8. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-FD04-0421	Chloride, Fluoride, Sulfate
CH-CCR-M52-0421	Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Iron, Lead, Manganese, Molybdenum, Selenium, Thallium
CH-CCR-M53-0421	DOC, Mercury
CH-CCR-M55-0421	Arsenic, Cobalt
CH-CCR-W302-0421	Ammonia
CH-CCR-W305-0421	Chloride, DOC, Fluoride, Sulfate
CH-CCR-W309-0421	Iron, Manganese

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M53-0421 (CH-CCR-FD03-0421)	DOC	88%, 85%	90 to 110%	J-LM
CH-CCR-W305-0421	Chloride, Sulfate	144% , 136%	80 to 120%	J-HM
CH-CCR-W305-0421	DOC	85%, 81%	90 to 110%	J-LM

Notes:

HM = High matrix spike recovery. Result may be biased high.
LM = Low matrix spike recovery. Result may be biased low.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M53-0421	CH-CCR-FD03-0421
CH-CCR-BAPTD-0421	CH-CCR-FD04-0421

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-M53-0421	CH-CCR-FD03-0421	Ammonia	67%	J-FD
CH-CCR-BAPTD-0421	CH-CCR-FD04-0421	Lead	84%	J-FD

Note:

FD = Imprecision between primary sample and field duplicate results.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M53-0421 and CH-CCR-FD03-0421								
Chloride	400	mg/L	2,400		2,200		8.7%	
Fluoride	0.80	mg/L	2.1		2.1		0.0%	
Sulfate	400	mg/L	3,100		2,900		6.7%	
Lithium	0.020	mg/L	0.21		0.21		0.0%	
Boron	0.050	mg/L	3.2		3.2		0.0%	
Calcium	2.0	mg/L	670		680		1.5%	
Iron	0.10	mg/L	0.10		0.064	J	44%	± RL
Manganese	0.010	mg/L	4.1		4.1		0.0%	
Arsenic	0.0020	mg/L	0.0019	J	0.0024		23%	± RL
Barium	0.0010	mg/L	0.0083		0.0083		0.0%	
Cadmium	0.00020	mg/L	0.00093		0.00079		16%	
Chromium	0.0020	mg/L	0.0020		0.0017	J	16%	
Cobalt	0.0010	mg/L	0.012		0.012		0.0%	
Molybdenum	0.0010	mg/L	0.029		0.027		7.1%	
Selenium	0.0010	mg/L	0.0010		0.00096	J	4.1%	
Ammonia	0.050	mg/L	0.22		0.11		67%	J-FD
Total Dissolved Solids	100	mg/L	7,800		7,500		3.9%	
pH	1.7	SU	7.3		7.3		0.0%	

Analyte	Average Reporting Limit		Primary Result	Duplicate Result	RPD	Notes
Dissolved Organic Carbon	0.50	mg/L	1.3	1.2	8.0%	
Dissolved Iron	0.10	mg/L	0.091 J	0.056 J	48%	± RL
Dissolved Manganese	0.010	mg/L	4.2	4.2	0.0%	
Dissolved Arsenic	0.0010	mg/L	0.0012	0.0013	8.0%	
Dissolved Cobalt	0.0010	mg/L	0.012	0.012	0.0%	
Samples CH-CCR-BAPTD-0421 and CH-CCR-FD04-0421						
Chloride	400	mg/L	2,700	2,600	3.8%	
Fluoride	0.80	mg/L	3.1	3.1	0.0%	
Sulfate	400	mg/L	3,200	3,100	3.2%	
Lithium	0.020	mg/L	0.23	0.25	8.3%	
Boron	0.050	mg/L	4.3	4.3	0.0%	
Calcium	2.0	mg/L	700	710	1.4%	
Iron	0.10	mg/L	0.77	0.68	12%	
Magnesium	2.0	mg/L	280	280	0.0%	
Manganese	0.010	mg/L	2.9	2.8	3.5%	
Potassium	0.50	mg/L	17	17	0.0%	
Sodium	2.5	mg/L	2,000	2,100	4.9%	
Arsenic	0.0020	mg/L	0.0027	0.0020	30%	± RL
Barium	0.0010	mg/L	0.012	0.011	8.7%	
Chromium	0.0020	mg/L	0.0017 J	0.00098 J	54%	± RL
Cobalt	0.0010	mg/L	0.0095	0.0093	2.1%	
Lead	0.0010	mg/L	0.019	0.0078	84%	J-FD
Molybdenum	0.0010	mg/L	0.025	0.025	0.0%	
Selenium	0.0010	mg/L	0.0015	0.0011	31%	± RL
Ammonia	0.050	mg/L	0.077	0.075	2.6%	
Alkalinity as CaCO3	6.0	mg/L	150	160	6.5%	
Bicarbonate Alkalinity as CaCO3	6.0	mg/L	150	160	6.5%	
Total Dissolved Solids	100	mg/L	8,700	8,200	5.9%	
pH	1.7	SU	7.6	7.5	1.3%	
Total Organic Carbon	0.50	mg/L	1.4	1.3	7.4%	
Dissolved Iron	0.10	mg/L	0.71	0.62	14%	
Dissolved Manganese	0.010	mg/L	3.0	2.8	6.9%	
Dissolved Cobalt	0.0010	mg/L	0.0096	0.0090	6.5%	

Note:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-BAP-0421	Alkalinity
CH-CCR-FD03-0421, CH-CCR-M52-0421, CH-CCR-TanWash-0421	pH
CH-CCR-W304-0421, CH-CCR-W305-0421	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-162157-1	**Review Date:**	5 May 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43-0421	4/14/2021 13:14	550-162157-1/2	
CH-CCR-M44D-0421	4/16/2021 7:50	550-162157-3	
CH-CCR-M45-0421	4/14/2021 11:49	550-162157-4	
CH-CCR-M46-0421	4/14/2021 15:28	550-162157-5/6	
CH-CCR-M50-0421	4/15/2021 13:47	550-162157-7/8	
CH-CCR-M51-0421	4/15/2021 14:29	550-162157-9/10	
CH-CCR-M63-0421	4/15/2021 9:29	550-162157-11	
CH-CCR-M64-0421	4/15/2021 15:48	550-162157-12/13	
CH-CCR-M65-0421	4/14/2021 14:17	550-162157-14/15	
CH-CCR-M66-0421	4/15/2021 7:25	550-162157-16/17	
CH-CCR-M67-0421	4/14/2021 16:25	550-162157-18/19	
CH-CCR-W123-0421	4/15/2021 10:50	550-162157-20/21	
CH-CCR-W125-0421	4/15/2021 12:53	550-162157-22	
CH-CCR-W126-0421	4/15/2021 8:15	550-162157-23/24	
CH-CCR-GeronC-0421	4/15/2021 11:30	550-162157-25	
CH-CCR-GeronD-0421	4/15/2021 12:12	550-162157-26	
CH-CCR-HuntB-0421	4/15/2021 8:40	550-162157-27	
CH-CCR-FD05-0421	4/16/2021 7:50	550-162157-28	Field duplicate of CH-CCR-M44D-0421

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Nitrate/Nitrite, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H^+ B
Total or Dissolved Organic Carbon	General Chemistry	SM 5310B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M43-0421	pH	7 days, 5 hours, 16 minutes	J-HT
CH-CCR-M44D-0421	pH	5 days, 10 hours, 40 minutes	J-HT
CH-CCR-M45-0421	pH	7 days, 6 hours, 41 minutes	J-HT
CH-CCR-M46-0421	pH	7 days, 3 hours, 2 minutes	J-HT
CH-CCR-M50-0421	pH	6 days, 4 hours, 43 minutes	J-HT
CH-CCR-M51-0421	pH	6 days, 4 hours, 1 minute	J-HT
CH-CCR-M63-0421	pH	6 days, 9 hours, 1 minute	J-HT
CH-CCR-M64-0421	pH	6 days, 2 hours, 42 minutes	J-HT
CH-CCR-M65-0421	pH	7 days, 4 hours, 13 minutes	J-HT
CH-CCR-M66-0421	pH	6 days, 11 hours, 5 minutes	J-HT
CH-CCR-M67-0421	pH	7 days, 2 hours, 5 minutes	J-HT
CH-CCR-W123-0421	pH	6 days, 7 hours, 40 minutes	J-HT
CH-CCR-W125-0421	pH	6 days, 5 hours, 37 minutes	J-HT
CH-CCR-W126-0421	pH	6 days, 10 hours, 15 minutes	J-HT
CH-CCR-GeronC-0421	pH	6 days, 7 hours	J-HT
CH-CCR-GeronD-0421	pH	6 days, 6 hours, 18 minutes	J-HT
CH-CCR-HuntB-0421	pH	6 days, 9 hours, 50 minutes	J-HT
CH-CCR-FD05-0421	pH	5 days, 10 hours, 40 minutes	J-HT
CH-CCR-M50-0421	TDS	11 days	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

6. Target analytes detected in the blanks? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Beryllium	0.000110 mg/L	CH-CCR-M44D-0421, CH-CCR-M63-0421	U-MB
Potassium	0.200 mg/L		
Sodium	0.201 mg/L		
Boron	0.00294 mg/L		
Calcium	0.0721 mg/L		
Iron	0.0113 mg/L		
Magnesium	0.0485 mg/L		
Manganese	0.000790 mg/L		
Sodium	0.576 mg/L		
Manganese	0.00100 mg/L		
Thallium	0.0000240 mg/L		
Antimony	0.000186 mg/L	CH-CCR-FD05-0421, CH-CCR-HuntB-0421	U-MB
Arsenic	0.000328 mg/L		
Cobalt	0.0000750 mg/L		

Note:

MB = The analyte was detected in the associated laboratory blank, and the concentration detected in the sample was less than five times the concentration detected in the blank.

7. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Barium	122%, 125%	85 to 115%	CH-CCR-HuntB-0421 CH-CCR-FD05-0421	J-HL

Note:

HL = High laboratory control sample recovery. Result may be biased high.

8. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M43-0421	Chloride, Fluoride, Sulfate
CH-CCR-M44D-0421	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chloride, Chromium, Cobalt, Fluoride, Lead, Mercury, Molybdenum, Selenium, Sulfate, Thallium
CH-CCR-M45-0421, CH-CCR-M65-0421	Lithium
CH-CCR-M46-0421	Chloride, Fluoride, Lithium, Sulfate
CH-CCR-M64-0421	Ammonia, DOC

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M44D-0421 (CH-CCR-FD05-0421)	Calcium	65%, MSD	70 to 130%	NA4
CH-CCR-M64-0421	DOC	77%, MSD	90 to 110%	J-LM

Notes:

LM = Low matrix spike recovery. Result may be biased low.
NA4 = The background concentration in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on MS recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M44D-0421	CH-CCR-FD05-0421

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Note:

FD = Imprecision between primary sample and field duplicate results.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M44D-0421 and CH-CCR-FD05-0421								
Chloride	400	mg/L	1,000		1,000		0.0%	
Fluoride	0.80	mg/L	0.77	J	1		2.6%	
Sulfate	400	mg/L	330		320		3.1%	
Beryllium	0.0010	mg/L	0.00040	J	0.0010	U	NC	± RL
Lithium	0.020	mg/L	0.040		0.039		2.5%	
Boron	0.050	mg/L	0.25		0.29		14.8%	
Calcium	2.0	mg/L	91		87		4.5%	
Antimony	0.0020	mg/L	0.0020	U	0.00023	J	NC	± RL
Arsenic	0.0010	mg/L	0.0014		0.0023		48.6%	± RL
Barium	0.0010	mg/L	0.021		0.020		4.9%	
Molybdenum	0.0010	mg/L	0.0029		0.0027		7%	
Total Dissolved Solids	40	mg/L	2,300		2,300		0%	
pH	1.7	SU	7.0		7.0		0.0%	

Note:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M44D-0421	pH, TDS
CH-CCR-M63-0421	TDS
CH-CCR-FD05-0421	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-162158-1	**Review Date:**	6 May 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M56-0421	4/14/2021 8:08	550-162158-1	
CH-CCR-M57-0421	4/14/2021 9:06	550-162158-2	
CH-CCR-M58-0421	4/14/2021 9:45	550-162158-3	
CH-CCR-M62-0421	4/14/2021 7:24	550-162158-4	
CH-CCR-FD02-0421	4/14/2021 8:08	550-162158-5	Field duplicate of CH-CCR-M56-0421

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Lithium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H^+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, chloride, fluoride, and sulfate within 28 days of sampling? Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling? Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M56-0421	pH	7 days, 10 hours, 22 minutes	J-HT
CH-CCR-M57-0421	pH	13 days, 1 hour, 34 minutes	J-HT
CH-CCR-M58-0421	pH	13 days, 55 minutes	J-HT
CH-CCR-M62-0421	pH	13 days, 3 hours, 16 minutes	J-HT
CH-CCR-FD02-0421	pH	13 days, 2 hours, 32 minutes	J-HT
CH-CCR-FD02-0421	TDS	12 days	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

6. Target analytes detected in the blanks? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Boron	0.00262 mg/L		
Antimony	0.000186 mg/L	CH-CCR-M56-0421, CH-CCR-M57-0421, CH-CCR-M58-0421, CH-CCR-M62-0421, CH-CCR-FD02-0421	U-MB
Arsenic	0.000328 mg/L		
Cobalt	0.0000750 mg/L	CH-CCR-M62-0421	U-MB

Note:

MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample is less than five times the concentration detected in the blank.

7. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M56-0421	CH-CCR-FD02-0421

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-M56-0421	CH-CCR-FD02-0421	Chromium	36%	J-FD
CH-CCR-M56-0421	CH-CCR-FD02-0421	TDS	49%	J-FD

Note:

FD = Imprecision between primary sample and field duplicate results.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M56-0421 and CH-CCR-FD02-0421								
Chloride	400	mg/L	1,800		1,800		0.0%	
Fluoride	0.80	mg/L	0.39	J	0.40	J	2.5%	
Sulfate	400	mg/L	950		950		0.0%	
Lithium	0.020	mg/L	0.10		0.10		0.0%	
Boron	0.050	mg/L	0.33		0.33		0.0%	
Calcium	2.0	mg/L	310		310		0.0%	
Arsenic	0.0010	mg/L	0.0029		0.0036		22%	± RL
Barium	0.00050	mg/L	0.050		0.050		0.0%	
Chromium	0.0020	mg/L	0.014		0.0097		36%	J-FD
Cobalt	0.0010	mg/L	0.00073	J	0.00072	J	1.4%	
Molybdenum	0.0010	mg/L	0.0097		0.0091		6.4%	
Selenium	0.0010	mg/L	0.0016		0.0022		32%	± RL
Total Dissolved Solids	100	mg/L	4,200		6,900		49%	J-FD
pH	1.7	SU	7.5		7.7		2.6%	

Note:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M58-0421, CH-CCR-FD02-0421	TDS

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-162159-1	**Review Date:**	29 April 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-0421	04/16/21 13:45	550-162159-1	
CH-CCR-M59-0421	04/16/21 11:00	550-162159-2	
CH-CCR-M60-0421	04/16/21 12:40	550-162159-3	
CH-CCR-M61-0421	04/16/21 11:54	550-162159-4	
CH-CCR-FD01-0421	04/16/21 11:00	550-162159-5	Field duplicate of CH-CCR-M59-0421

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Boron, Calcium	Metals	EPA 200.7
Total Dissolved Solids, pH	General Chemistry	SM 2540C, SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, chloride, fluoride, and/or sulfate within 28 days of sampling?

Yes No N/A

3. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

4. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection And Analysis	Effect on data usability
CH-CCR-M54-0421	pH	10 days, 20 hrs, 55 min	J-HT
CH-CCR-M59-0421	pH	10 days, 23 hrs, 40 min	J-HT
CH-CCR-M60-0421	pH	10 days, 22 hrs	J-HT
CH-CCR-M61-0421	pH	10 days, 22 hrs, 46 min	J-HT
CH-CCR-FD01-0421	pH	10 days, 23 hrs, 40 min	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

5. Target analytes detected in the blank? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection
Boron	0.00262 mg/L	None

6. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	Affected Samples

7. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M59-0421	Chloride, Fluoride, Sulfate, Boron, Calcium

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

8. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M59-0421	CH-CCR-FD01-0421

a. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

9. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M59-0421	Total Dissolved Solids, pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins TestAmerica, Phoenix		
Sample Delivery Group:	550-164785-1	**Review Date:**	21 June 2021
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-P226A-0621	06/01/21 12:12	550-164785-1/2	
CH-CCR-P226B-0621	06/01/21 12:27	550-164785-3/4	
CH-CCR-P226C-0621	06/01/21 12:51	550-164785-5/6	
CH-CCR-P226D-0621	06/01/21 13:03	550-164785-7/8	
CH-CCR-P226E-0621	06/01/21 13:20	550-164785-9/10	
CH-CCR-P226G-0621	06/01/21 13:55	550-164785-11/12	
CH-CCR-P226H-0621	06/01/21 14:21	550-164785-13/14	

Analytical Methods:

Analyte	Analyte Group	Method
Lithium, Boron, Calcium, Iron, Magnesium, Potassium, Manganese, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Total Dissolved Solids	General Chemistry	SM 2540C
Nitrate, Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Ammonia	General Chemistry	EPA 350.1
Alkalinity	General Chemistry	SM 2320B
Mercury	Metals	EPA 245.1
Total Organic Carbon	General Chemistry	SM 5310B
pH	General Chemistry	SM 4500HB

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

The wrong container was used for the dissolved metals-lab to filter method. The lab split the sample volume from the unpreserved 500mL container to use for dissolved metals.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, chloride, fluoride, and/or sulfate within 28 days of sampling?

   Yes No N/A

3. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

4. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection And Analysis	Effect on data usability
CH-CCR-P226A-0621	pH	7 days, 4 hours, 23 minutes	J-HT
CH-CCR-P226B-0621	pH	7 days, 4 hours, 8 minutes	J-HT
CH-CCR-P226C-0621	pH	7 days, 3 hours, 44 minutes	J-HT
CH-CCR-P226D-0621	pH	7 days, 3 hours, 32 minutes	J-HT
CH-CCR-P226E-0621	pH	7 days, 3 hours, 15 minutes	J-HT
CH-CCR-P226G-0621	pH	7 days, 2 hours, 40 minutes	J-HT
CH-CCR-P226H-0621	pH	7 days, 2 hours, 14 minutes	J-HT

Note:

HT = Maximum hold time exceeded.

5. Target analytes detected in the blank? Yes No

If Yes:

Detected Analyte	Concentration	Samples with detected concentrations less than 5 times the blank detection
Calcium	0.0244 mg/L	
Manganese	0.000700 mg/L	
Manganese	0.00237 mg/L	
Antimony	0.000053 mg/L	CH-CCR-P226A-0621, CH-CCR-P226B-0621, CH-CCR-P226C-0621, CH-CCR-P226D-0621, CH-CCR-P226H-0621 (U-MB)
Lead	0.000253 mg/L	
Thallium	0.000039 mg/L	CH-CCR-P226A-0621, CH-CCR-P226B-0621, CH-CCR-P226C-0621, CH-CCR-P226D-0621, CH-CCR-P226G-0621, CH-CCR-P226H-0621 (U-MB)

Note:

MB = The analyte was detected in the associated laboratory blank and the concentration detected in the sample is less than five times the concentration detected in the blank.

6. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	Affected Samples

MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-P226A-0621	Nitrate, Chloride, Fluoride, Sulfate, Mercury

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

7. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

a. Is the RPD between primary and duplicate results ≤ 20% or is the difference between analyte concentrations ≤ the reporting limit?

Yes No N/A

8. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-P226A-0621	Alkalinity
CH-CCR-P226B-0621	Total dissolved solids

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

9. Are total analyte results greater than or equal to dissolved results?

Yes No N/A

If No:

Sample ID	Analyte	Total Result	Dissolved Result	Effect on Data Usability
CH-CCR-P226B-0621	Iron	0.056 mg/L	0.060 mg/L	None
CH-CCR-P226B-0621	Cobalt	0.013 mg/L	0.014 mg/L	None
CH-CCR-P226B-0621	Manganese	4.5 mg/L	4.6 mg/L	None
CH-CCR-P226E-0621	Cobalt	0.0093 mg/L	0.015 mg/L	J-TD
CH-CCR-P226G-0621	Manganese	1.5 mg/L	2.4 mg/L	J-TD
CH-CCR-P226G-0621	Cobalt	0.0031 mg/L	0.015 mg/L	J-TD
CH-CCR-P226H-0621	Manganese	0.014 mg/L	0.022 mg/L	None

Notes:

mg/L = milligrams per liter

TD = Dissolved result is significantly higher than the total result.

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Radiation Safety Engineering, Inc.		
Sample Delivery Group:	--	**Review Date:**	22 November 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52-1021	10/29/21 11:28	67598	
CH-CCR-M53-1021	10/28/21 16:18	67599	
CH-CCR-M55-1021	10/27/21 15:47	67600	
CH-CCR-M69-1021	10/29/21 12:28	67601	
CH-CCR-M70-1021	10/29/21 14:28	67602	
CH-CCR-M71-1021	10/30/21 11:08	67603	
CH-CCR-M72-1021	10/30/21 9:54	67604	
CH-CCR-M73-1021	10/30/21 12:00	67605	
CH-CCR-M74-1021	10/30/21 13:00	67606	
CH-CCR-M77-1021	10/28/21 13:42	67607	
CH-CCR-M78-1021	10/28/21 11:18	67608	
CH-CCR-FD03-1021	10/25/21 13:30	67609	Field duplicate of CH-CCR-M79-1021
CH-CCR-M79-1021	10/25/21 13:30	67610	
CH-CCR-W301-1021	10/28/21 14:32	67611	
CH-CCR-W302-1021	10/28/21 11:58	67612	
CH-CCR-W303-1021	10/28/21 15:20	67613	
CH-CCR-W304-1021	10/28/21 10:25	67614	
CH-CCR-W305-1021	10/28/21 9:28	67615	
CH-CCR-W306-1021	10/29/21 10:26	67616	
CH-CCR-W307R-1021	10/28/21 9:17	67617	
CH-CCR-W308-1021	10/28/21 8:13	67618	
CH-CCR-W309-1021	10/27/21 14:55	67619	
CH-CCR-W314-1021	10/29/21 15:30	67620	
CH-CCR-W317-1021	10/21/21 15:30	67621	
CH-CCR-FD04-1021	10/28/21 9:17	67622	Field duplicate of CH-CCR-W307R-1021
CH-CCR-M43-1021	10/22/21 11:41	67578	
CH-CCR-M44D-1021	10/23/21 15:33	67579	
CH-CCR-M45-1021	10/22/21 10:33	67580	
CH-CCR-M46-1021	10/22/21 13:57	67581	
CH-CCR-M50-1021	10/23/21 10:37	67582	
CH-CCR-M51-1021	10/23/21 12:41	67583	
CH-CCR-M63-1021	10/24/21 8:30	67584	
CH-CCR-M64-1021	10/22/21 8:55	67585	
CH-CCR-M65-1021	10/22/21 13:00	67586	
CH-CCR-M66-1021	10/24/21 10:08	65787	
CH-CCR-M67-1021	10/22/21 14:57	67588	
CH-CCR-FD05-1021	10/23/21 9:48	67589	Field duplicate of CH-CCR-W125-1021

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-W123R-1021	10/23/21 8:45	67590	
CH-CCR-W125-1021	10/23/21 9:48	67591	
CH-CCR-W126R-1021	10/24/21 11:20	67592	
CH-CCR-FAP-1021	10/31/21 13:25	67594	
CH-CCR-FD06-1021	10/23/21 15:33	67595	Field duplicate of CH-CCR-M44D-1021
CH-CCR-44D-1021-MS	10/23/21 15:33	67596	Assessed as CH-CCR-M44D-1021 and CH-CCR-FD07-1021
CH-CCR-44D-1021-SD	10/23/21 15:33	67597	
CH-CCR-CR1R-1021	10/21/21 16:53	67623	
CH-CCR-M56-1021	10/21/21 12:58	67624	
CH-CCR-M57-1021	10/21/21 13:39	67625	
CH-CCR-M58-1021	10/21/21 14:22	67626	
CH-CCR-M62-1021	10/21/21 11:08	67627	
CH-CCR-FD02-1021	10/21/21 16:53	67628	Field duplicate of CH-CCR-CR1R-1021
CH-CCR-CR1R-1021-MS	10/21/21 16:53	67629	Assessed as CH-CCR-CR1R-1021 and CH-CCR-FD08-1021
CH-CCR-CR1R-1021-SD	10/21/21 16:53	67630	

Analytical Methods:

Analyte	Analyte Group	Method
Radium 226, Radium 228, Total Radium	Radionuclides	HPGE

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-CR1R-1021	CH-CCR-FD02-1021
CH-CCR-M79-1021	CH-CCR-FD03-1021
CH-CCR-W307R-1021	CH-CCR-FD04-1021
CH-CCR-W125-1021	CH-CCR-FD05-1021
CH-CCR-M44-1021	CH-CCR-FD06-1021
CH-CCR-M44-1021	CH-CCR-FD07-1021
CH-CCR-CR1R-1021	CH-CCR-FD08-1021

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-W125-1021	CH-CCR-FD05-1021	Radium 226	35%	J-FD
CH-CCR-W125-1021	CH-CCR-FD05-1021	Radium-228	71%	J-FD
CH-CCR-W125-1021	CH-CCR-FD05-1021	Total Radium	52%	J-FD
CH-CCR-M44D-1021	CH-CCR-FD06-1021	Radium 226	31%	J-FD

Note:

FD = Imprecision between primary and field duplicate results.

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-CR1R-1021 and CH-CCR-FD02-1021					
Radium 226	0.4 pCi/L	0.5 ± 0.2	0.4 U	NC	± RL
Total Radium	0.6 pCi/L	0.5 ± 0.2	0.6 U	NC	± RL
Samples CH-CCR-MW79-1021 and CH-CCR-FD03-1021					
Radium 226	0.4 pCi/L	0.4 U	0.4 ± 0.2	NC	± RL
Total Radium	0.6 pCi/L	0.6 U	0.4 ± 0.2	NC	± RL
Samples CH-CCR-W307R-1021 and CH-CCR-FD04-1021					
No target analyte detections					
Samples CH-CCR-W125-1021 and CH-CCR-FD05-1021					
Radium 226	0.4 pCi/L	1.4 ± 0.5	2.0 ± 0.3	35%	J-FD
Radium 228	0.6 pCi/L	0.9 ± 0.7	1.9 ± 0.4	71%	J-FD
Total Radium	0.6 pCi/L	2.3 ± 0.9	3.9 ± 0.5	52%	J-FD
Samples CH-CCR-M44D-1021 and CH-CCR-FD06-1021					
Radium 226	0.4 pCi/L	3.4 ± 0.3	2.5 ± 0.3	31%	J-FD
Radium 228	0.6 pCi/L	1.6 ± 0.4	1.8 ± 0.3	12%	
Total Radium	0.6 pCi/L	5.0 ± 0.5	4.3 ± 0.4	15%	
Samples CH-CCR-M44D-1021 and CH-CCR-FD07-1021					
Radium 226	0.4 pCi/L	2.7 ± 0.3	3.2 ± 0.3	17%	
Radium 228	0.6 pCi/L	1.5 ± 0.3	1.5 ± 0.4	0.0%	
Total Radium	0.6 pCi/L	4.2 ± 0.4	4.7 ± 0.5	11%	
Samples CH-CCR-CR1R-1021 and CH-CCR-FD08-1021					
Radium 228	0.6 pCi/L	0.6 U	0.7 ± 0.3	NC	± RL
Total Radium	0.6 pCi/L	0.6 U	0.7 ± 0.3	NC	± RL

Notes:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.
NC = not calculable
pCi/L = picoCuries per liter

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Testing America		
Sample Delivery Group:	550-173429	**Review Date:**	10 December 2021
Validator's Name:	Rebecca Enzor	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M43-1021	10/22/2021 11:41	550-173429-1/2	
CH-CCR-M44D-1021	10/23/2021 15:33	550-173429-3	
CH-CCR-M45-1021	10/22/2021 10:33	550-173429-4	
CH-CCR-M46-1021	10/22/2021 13:57	550-173429-5/6	
CH-CCR-M50-1021	10/23/2021 10:37	550-173429-7/8	
CH-CCR-M51-1021	10/23/2021 12:41	550-173429-9/10	
CH-CCR-M63-1021	10/24/2021 8:30	550-173429-11	
CH-CCR-M64-1021	10/22/2021 8:55	550-173429-12/13	
CH-CCR-M65-1021	10/22/2021 13:00	550-173429-14/15	
CH-CCR-M66-1021	10/24/2021 10:08	550-173429-16/17	
CH-CCR-M67-1021	10/22/2021 14:57	550-173429-18/19	
CH-CCR-FD05-1021	10/23/2021 9:48	550-173429-20	Field duplicate of CH-CCR-W125-1021
CH-CCR-W123R-1021	10/23/2021 8:45	550-173429-21/22	
CH-CCR-W125-1021	10/23/2021 9:48	550-173429-23	
CH-CCR-W126R-1021	10/24/2021 11:20	550-173429-24/25	
CH-CCR-FAP-1021	10/31/2021 13:25	550-173429-26/27	
CH-CCR-FD06-1021	10/23/2021 15:33	550-173429-28	Field duplicate of CH-CCR-M44D-1021

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	300.0
Beryllium, Lithium, Boron, Calcium, Magnesium, Potassium, Sodium	Metals (ICP)	200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molydbenum, Selenium, Thallium	Metals (ICP/MS)	200.8
Mercury	Metals (CVAA)	245.1
Nitrogen, Ammonia (Low Level)	General Chemistry	350.1
Alkalinity as CaCO3, Bicarbonate Alkalinity as CaCO3, Carbonate Alkalinity as CaCO3, Hydroxide Alkalinity as CaCO3, Alkalinity Phenolphthalein	General Chemistry	2320B
Total Dissolved Solids	General Chemistry	2540C
pH	General Chemistry	4500 H+ B
Total Organic Carbon	General Chemistry	5310B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

The analyte lists have been greyed out and are completely illegible, with the exception of SM 5310B and SM 4500.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals and radionuclides within 180 days of sampling?

   Yes No N/A

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M43-1021	pH, TDS	20 days, 13 days	J-HT
CH-CCR-M44D-1021	pH, TDS	18 days, 12 days	J-HT
CH-CCR-M45-1021	pH, TDS	20 days, 13 days	J-HT
CH-CCR-M46-1021	pH, TDS	20 days, 13 days	J-HT
CH-CCR-M50-1021	pH, TDS	19 days, 12 days	J-HT
CH-CCR-M51-1021	pH, TDS	19 days, 12 days	J-HT
CH-CCR-M63-1021	pH, TDS	18 days, 17 days	J-HT
CH-CCR-M64-1021	pH, TDS	24 days, 13 days	J-HT
CH-CCR-M65-1021	pH, TDS	21 days, 13 days	J-HT
CH-CCR-M66-1021	pH, TDS	20 days, 17 days	J-HT
CH-CCR-M67-1021	pH, TDS	21 days, 13 days	J-HT
CH-CCR-FD05-1021	pH, TDS	21 days, 12 days	J-HT
CH-CCR-W123R-1021	pH, TDS	21 days, 12 days	J-HT
CH-CCR-W125-1021	pH, TDS	21 days, 12 days	J-HT
CH-CCR-W126R-1021	pH, TDS	20 days, 11 days	J-HT
CH-CCR-FAP-1021	pH	12 days	J-HT

Note: HT = The maximum recommended hold time was exceeded and the result should be considered an estimated value.

6. Target analytes detected in the blanks? Yes No N/A

If Yes:

Detected Analyte	**Concentration**	**Samples with concentrations less than 5 times the blank detection**	**Effect on Data Usability**
Dissolved Manganese	0.000470 mg/L		
Arsenic	0.000495 mg/L	CH-CCR-M44D-1021, CH-CCR-M64-1021, CH-CCR-M65-1021,CH-CCR-M66-1021, CH-CCR-W126-1021	U-MB
Total Organic Carbon	0.322 mg/L		
Dissolved Organic Carbon	0.357 mg/L	CH-CCR-M43-1021	U-MB

Note: MB = The same analyte was detected in the field sample and its associated blank.

7. LCS recoveries within laboratory-specified limits? Yes No N/A

If No:

Analyte	**Recovery**	**QC Limits**	**Affected Samples**	**Effect on Data Usability**

8. MS performed on a project-specific sample? Yes No N/A

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M44D-1021	Chloride, Fluoride, Sulfate, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Beryllium, Lithium, Boron, Calcium, Mercury.
CH-CCR-M67-1021	Fluoride
CH-CCR-M66-1021	Nitrate/Nitrite
CH-CCR-M43-1021	Dissolved Arsenic, Dissolved Cobalt, Ammonia.
CH-CCR-M64-1021	Total Organic Carbon

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M43-1021	Ammonia	115%, 111%	90-110%	J-HM
CH-CCR-M64-1021	Dissolved Organic Carbon	53%	90-110%	J-LM
CH-CCR-M64-1021	Dissolved Organic Carbon	42%	0-20%	J-HD

Note:
HM = High matrix spike recovery. Result may be biased high.
LM = Low matrix spike recovery. Result may be biased low.
HD = High laboratory duplicate RPD.

9. Field duplicate collected? Yes (circled) No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-W125-1021	CH-CCR-FD05-1021
CH-CCR-M44D-1021	CH-CCR-FD06-1021

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-W125-1021	CH-CCR-FD05-1021	Arsenic	29%	J-FD
CH-CCR-M44D-1021	CH-CCR-FD06-1021	Sulfate	21.6%	J-FD
CH-CCR-M44D-1021	CH-CCR-FD06-1021	Boron	56.7%	J-FD
CH-CCR-M44D-1021	CH-CCR-FD06-1021	Arsenic	> RL	J/UJ-FD
CH-CCR-M44D-1021	CH-CCR-FD06-1021	Molybdenum	41.5%	J-FD

Note: FD = Imprecision between primary and field duplicate results.

> RL = The difference between detected and non-detected results was greater than the reporting limit.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-W125-1021 and CH-CCR-FD05-1021								
Chloride	400	mg/L	750		760		1.3%	
Fluoride	0.80	mg/L	0.56	J	0.53	J	5.5%	
Sulfate	100	mg/L	310		380		20%	± RL
Lithium	0.020	mg/L	0.026		0.026		0.0%	
Boron	0.050	mg/L	0.18		0.16		12%	
Calcium	2.0	mg/L	120		120		0.0%	
Antimony	0.0010	mg/L	0.000066	J	0.000096	J	37%	± RL
Arsenic	0.00050	mg/L	0.0051		0.0038		29%	J-FD
Barium	0.00050	mg/L	0.022		0.022		0.0%	
Cobalt	0.00050	mg/L	0.0012		0.00072		50%	± RL
Molybdenum	0.00050	mg/L	0.0028		0.0025		11%	
Selenium	0.00050	mg/L	0.00011	J	0.00050	U	NC	± RL
Thallium	0.00010	mg/L	0.000015	J	0.00010	U	NC	± RL
Total Dissolved Solids	20	mg/L	1,700		1,600		6.1%	
pH	1.7	SU	7.7		7.7		0.0%	

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M44D-1021 and CH-CCR-FD06-1021								
Chloride	400	mg/L	1,100		1,100		0.0%	
Fluoride	0.80	mg/L	0.76	J	0.66	J	14%	
Sulfate	20	mg/L	330		410		22%	J-FD
Lithium	0.020	mg/L	0.04		0.04		5.0%	
Boron	0.050	mg/L	0.24		0.43		57%	J-FD
Calcium	2.0	mg/L	84		83		1.2%	
Antimony	0.0010	mg/L	0.000071	J	0.000069	J	2.9%	
Arsenic	0.00050	mg/L	0.0016	U	0.00093		NC	UJ/J-FD
Barium	0.00050	mg/L	0.020		0.021		4.9%	
Cadmium	0.00010	mg/L	0.000043	J	0.00010	U	NC	± RL
Chromium	0.0010	mg/L	0.00010	U	0.00044	J	NC	± RL
Molybdenum	0.00050	mg/L	0.0021		0.0032		42%	J-FD
Selenium	0.00050	mg/L	0.00019	J	0.00050	U	NC	± RL

Notes:

FD = Imprecision between primary and field duplicate results.
mg/L = milligrams per liter
± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.
SU = standard pH units

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No N/A

If Yes:

Sample ID	Analysis
CH-CCR-M64-1021	Total Dissolved Solids, pH
CH-CCR-W123R-1021	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America		
Sample Delivery Group:	550-174639	Review Date:	12/15/2021
Validator's Name:	Grace Graner	Reviewed By:	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-1121	11/19/21 13:46	550-174639-1	
CH-CCR-M59-1121	11/19/21 11:46	550-174639-2	
CH-CCR-M60-1121	11/19/21 13:07	550-174639-3	
CH-CCR-M61-1121	11/19/21 12:26	550-174639-4	
CH-CCR-FD01-1121	11/19/21 12:26	550-174639-5	Field Duplicate of CH-CCR-M61-1121

Analytical Methods:

Analyte	Analyte Group	Method
Total Dissolved Solids	General Chemistry	SM 2540C

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No N/A

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A
2. Samples analyzed for TDS within 7 days of sampling? Yes No N/A
3. Samples analyzed for chloride, fluoride, mercury, and sulfate within 28 days of sampling?
   Yes No N/A
4. Samples analyzed for other metals within 180 days of sampling?
   Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection And Analysis	Effect on Data Usability

5. Target analytes detected in the blank? Yes No N/A

   If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection

6. LCS recoveries within laboratory-specified limits? Yes No N/A

   If No:

Analyte	Recovery	Affected Samples

7. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

8. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M61-1121	CH-CCR-FD01-1121

a. Is the RPD between primary and duplicate results ≤ 20% or is the difference between analyte concentrations ≤ the reporting limit?

Yes No N/A

Analyte	Reporting Limit	Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M61-1121 and CH-CCR-FD01-1121					
Total Dissolved Solids	100 mg/L	2300	2300	0%	

Note:

mg/L = milligrams per liter

9. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M61-1121	Total Dissolved Solids

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria and/or Alternative GWPS?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	0.8	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-173411-1	**Review Date:**	22 November 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M52-1021	10/29/2021 11:28	550-173411-1/2	
CH-CCR-M53-1021	10/28/2021 16:18	550-173411-3/4	
CH-CCR-M55-1021	10/27/2021 15:47	550-173411-5/6	
CH-CCR-M69-1021	10/29/2021 12:28	550-173411-7/8	
CH-CCR-M70-1021	10/29/2021 14:28	550-173411-9/10	
CH-CCR-M71-1021	10/30/2021 11:08	550-173411-11/12	
CH-CCR-M72-1021	10/30/2021 9:54	550-173411-13/14	
CH-CCR-M73-1021	10/30/2021 12:00	550-173411-15/16	
CH-CCR-M74-1021	10/30/2021 13:00	550-173411-17/18	
CH-CCR-M77-1021	10/28/2021 13:42	550-173411-19/20	
CH-CCR-M78-1021	10/28/2021 11:18	550-173411-21/22	
CH-CCR-FD03-1021	10/25/2021 13:30	550-173411-23/24	Field duplicate of CH-CCR-M79-1021
CH-CCR-M79-1021	10/25/2021 13:30	550-173411-25/26	
CH-CCR-W301-1021	10/28/2021 14:32	550-173411-27/28	
CH-CCR-W302-1021	10/30/2021 11:58	550-173411-29/30	
CH-CCR-W303-1021	10/28/2021 15:20	550-173411-31/32	
CH-CCR-W304-1021	10/28/2021 10:25	550-173411-33/34	
CH-CCR-W305-1021	10/29/2021 9:28	550-173411-35/36	
CH-CCR-W306-1021	10/29/2021 10:26	550-173411-37/38	
CH-CCR-W307R-1021	10/28/2021 9:17	550-173411-39/40	
CH-CCR-W308-1021	10/28/2021 8:13	550-173411-41/42	
CH-CCR-W309-1021	10/27/2021 14:55	550-173411-43/44	
CH-CCR-W314-1021	10/29/2021 15:30	550-173411-45/46	
CH-CCR-W317-1021	10/21/2021 15:30	550-173411-47	
CH-CCR-FD04-1021	10/28/2021 9:17	550-173411-49/50	Field duplicate of CH-CCR-W307R-1021
CH-CCR-BAP-1021	10/31/2021 11:52	550-173411-51/52	
CH-CCR-BAPTD-1021	10/30/2021 14:40	550-173411-53/54	
CH-CCR-Petroglyph-1021	10/30/2021 15:20	550-173411-55/56	
CH-CCR-TanWash-1021	10/30/2021 15:52	550-173411-57/58	
CH-CCR-TWX3-1021	10/31/2021 8:14	550-173411-59/60	
CH-CCR-TWX4-1021	10/31/2021 8:32	550-173411-61/62	
CH-CCR-TWX5-1021	10/31/2021 8:51	550-173411-63/64	
CH-CCR-TWX6-1021	10/31/2021 9:10	550-173411-65/66	
CH-CCR-TWX7-1021	10/31/2021 9:36	550-173411-67/68	
CH-CCR-TWX8-1021	10/31/2021 9:52	550-173411-69/70	
CH-CCR-TWX9-1021	10/31/2021 10:24	550-173411-71/72	
CH-CCR-TWX10-1021	10/31/2021 10:41	550-173411-73/74	

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Nitrate/Nitrite, Sulfate	Anions	EPA 300.0
Beryllium, Boron, Calcium, Iron, Lithium, Magnesium, Manganese, Potassium, Sodium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Ammonia	General Chemistry	EPA 350.1
Alkalinity	General Chemistry	SM 2320B
Total Dissolved Solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H^+ B
Total/Dissolved Organic Carbon	General Chemistry	SM 5310B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-M52-1021	pH	15,979 minutes	J-HT
CH-CCR-M53-1021	pH	17,129 minutes	J-HT
CH-CCR-M55-1021	pH	18,600 minutes	J-HT
CH-CCR-M69-1021	pH	15,919 minutes	J-HT
CH-CCR-M70-1021	pH	15,799 minutes	J-HT
CH-CCR-M71-1021	pH	14,559 minutes	J-HT
CH-CCR-M72-1021	pH	14,633 minutes	J-HT
CH-CCR-M73-1021	pH	14,507 minutes	J-HT
CH-CCR-M74-1021	pH	14,447 minutes	J-HT
CH-CCR-M77-1021	pH	17,285 minutes	J-HT
CH-CCR-M78-1021	pH	17,429 minutes	J-HT
CH-CCR-FD03-1021	pH	21,617 minutes	J-HT
CH-CCR-M79-1021	pH	21,617 minutes	J-HT
CH-CCR-W301-1021	pH	17,235 minutes	J-HT
CH-CCR-W302-1021	pH	17,389 minutes	J-HT
CH-CCR-W303-1021	pH	17,187 minutes	J-HT
CH-CCR-W304-1021	pH	17,482 minutes	J-HT
CH-CCR-W305-1021	pH	17,539 minutes	J-HT
CH-CCR-W306-1021	pH	17,481 minutes	J-HT
CH-CCR-W307R-1021	pH	17,550 minutes	J-HT
CH-CCR-W308-1021	pH	17,614 minutes	J-HT
CH-CCR-W309-1021	pH	18,652 minutes	J-HT
CH-CCR-W314-1021	pH	15,737 minutes	J-HT
CH-CCR-W317-1021	pH	27,257 minutes	J-HT
CH-CCR-FD04-1021	pH	17,550 minutes	J-HT
CH-CCR-BAP-1021	pH	16,043 minutes	J-HT
CH-CCR-BAPTD-1021	pH	17,315 minutes	J-HT

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-Petroglyph-1021	pH	17,275 minutes	J-HT
CH-CCR-TanWash-1021	pH	17,243 minutes	J-HT
CH-CCR-TWX3-1021	pH	16,261 minutes	J-HT
CH-CCR-TWX4-1021	pH	16,243 minutes	J-HT
CH-CCR-TWX5-1021	pH	16,224 minutes	J-HT
CH-CCR-TWX6-1021	pH	16,205 minutes	J-HT
CH-CCR-TWX7-1021	pH	16,179 minutes	J-HT
CH-CCR-TWX8-1021	pH	16,163 minutes	J-HT
CH-CCR-TWX9-1021	pH	16,131 minutes	J-HT
CH-CCR-TWX10-1021	pH	16,114 minutes	J-HT
CH-CCR-FD03-1021	TDS	8 days	J-HT
CH-CCR-M79-1021	TDS	8 days	J-HT
CH-CCR-W317-1021	TDS	14 days	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

6. Target analytes detected in the blanks? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Iron	0.0759 mg/L	CH-CCR-FD03-1021, CH-CCR-M53-1021, CH-CCR-M55-1021, CH-CCR-M70-1021, CH-CCR-M71-1021, CH-CCR-M72-1021, CH-CCR-M73-1021, CH-CCR-M77-1021, CH-CCR-M78-1021, CH-CCR-M79-1021, CH-CCR-W301-1021, CH-CCR-W302-1021, CH-CCR-W303-1021, CH-CCR-W304-1021, CH-CCR-W305-1021, CH-CCR-W306-1021, and CH-CCR-W307R-1021	U-MB
Manganese	0.000850 mg/L, 0.00252 mg/L	CH-CCR-M55-1021	U-MB
Boron	0.0103 mg/L		
Boron	0.0562 mg/L, 0.00271 mg/L	CH-CCR-W317-1021	U-MB
Manganese	0.000390 mg/L		
Sodium	0.936 mg/L, 0.184 mg/L		
Manganese, Dissolved	0.000400 mg/L		
Manganese, Dissolved	0.000630 mg/L		

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Antimony	0.0000530 mg/L	CH-CCR-FD03-1021, CH-CCR-M53-1021, CH-CCR-M55-1021, CH-CCR-M73-1021, CH-CCR-M78-1021, CH-CCR-W301-1021, CH-CCR-W306-1021, CH-CCR-W307R-1021	U-MB
Thallium	0.0000160 mg/L	CH-CCR-FD03-1021, CH-CCR-M69-1021, CH-CCR-M71-1021, CH-CCR-M73-1021, CH-CCR-M77-1021, CH-CCR-W302-1021, CH-CCR-W303-1021, CH-CCR-W304-1021, CH-CCR-W306-1021, CH-CCR-W307R--1021	U-MB
Antimony	0.0000650 mg/L	CH-CCR-BAPTD-1021, CH-CCR-FD04-1021, CH-CCR-TanWash-1021, CH-CCR-TWX5-1021, CH-CCR-TWX7-1021, CH-CCR-TWX8-1021, CH-CCR-W308-1021, CH-CCR-W309-1021, CH-CCR-W314-1021, CH-CCR-W317-1021	U-MB
Cobalt	0.000108 mg/L	CH-CCR-W309-1021, CH-CCR-W317-1021	U-MB
Arsenic	0.000329 mg/L	CH-CCR-BAPTD-1021, CH-CCR-W308-1021, CH-CCR-W309-1021, CH-CCR-W314-1021	U-MB
Chromium	0.00498 mg/L	CH-CCR-FD04-1021	U-MB
Arsenic, Dissolved	0.000367 mg/L	CH-CCR-TWX8-1021, CH-CCR-W314-1021	U-MB
Total Organic Carbon	0.322 mg/L	CH-CCR-Petroglyph-1021, CH-CCR-TWX3-1021, CH-CCR-TWX5-1021, CH-CCR-TWX6-1021, CH-CCR-TWX8-1021	U-MB
Dissolved Organic Carbon	0.357 mg/L	CH-CCR-FD04-1021, CH-CCR-M53-1021, CH-CCR-TWX6-1021, CH-CCR-TWX7-1021, CH-CCR-TWX8-1021	U-MB

Note:

MB = The analyte was detected in the associated laboratory blank, and the concentration detected in the sample was less than five times the concentration detected in the blank.

7. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-BAP-1021	Chloride, Fluoride, Sulfate
CH-CCR-FD04-1021	Lithium
CH-CCR-M52-1021	Nitrate/Nitrite, Arsenic, Cobalt, Lithium, Ammonia, Dissolved Organic Carbon
CH-CCR-M53-1021	Lithium, Iron (Dissolved), Manganese (Dissolved), Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Dissolved Organic Carbon
CH-CCR-M77-1021, CH-CCR-TWX4-1021, CH-CCR-W307R-1021	Ammonia
CH-CCR-TWX8-1021, CH-CCR-W304-1021	Nitrate/Nitrite
Ch-CCR-W308-1021	Arsenic (Dissolved), Cobalt (Dissolved), Dissolved Organic Carbon
CH-CCR-W309-1021	Iron (Dissolved), Manganese (Dissolved)
CH-CCR-W317-1021	Chloride, Fluoride, Sulfate, Beryllium, Boron, Calcium, Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium, Mercury

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability
CH-CCR-M52-1021	Dissolved Organic Carbon	85%, MS	90 – 110%	J-LM
CH-CCR-M53-1021	Manganese, Dissolved	58%, 58%	70 – 130%	NA4
CH-CCR-M53-1021	Dissolved Organic Carbon	87%, MSD	90 – 110%	UJ-LM
CH-CCR-W308-1021	Dissolved Organic Carbon	86%, 69% 21%	90 -110% < 20%	J-LM, MD
CH-CCR-W317-1021	Calcium	-21%, 20%	70 - 130%	NA4

Notes:

LM = Low matrix spike recovery. Result may be biased low.
MD = Imprecision between MS and MSD results.
NA4 = The background concentration in the unspiked native sample is greater than four times the spike concentration and it is not possible to assess data usability for this analyte in this sample based on MS recovery.

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M79-1021	CH-CCR-FD03-1021
CH-CCR-W307R-1021	CH-CCR-FD04-1021

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability
CH-CCR-W307R-1021	CH-CCR-FD04-1021	Barium	24%	J-FD

Note:

FD = Imprecision between primary sample and field duplicate results.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-M79-1021 and CH-CCR-FD03-1021								
Chloride	400	mg/L	2,400		2,400		0.0%	
Fluoride	0.80	mg/L	0.51	J	0.51	J	0.0%	
Sulfate	400	mg/L	2,600		2,500		3.9%	
Lithium	0.020	mg/L	0.15		0.16		6.5%	
Boron	0.050	mg/L	0.33		0.33		0.0%	
Calcium	2.0	mg/L	740		750		1.3%	
Manganese	0.010	mg/L	3.8		3.9		2.6%	
Arsenic	0.0010	mg/L	0.0016		0.0016		0.0%	
Barium	0.0010	mg/L	0.012		0.011		8.7%	
Cadmium	0.00020	mg/L	0.00020	U	0.000084	J	NC	± RL
Cobalt	0.0010	mg/L	0.011		0.0091		19%	
Molybdenum	0.0010	mg/L	0.016		0.016		0.0%	
Selenium	0.0010	mg/L	0.0017		0.0020		16%	
Total Dissolved Solids	100	mg/L	6,900		7,300		5.6%	
pH	1.7	SU	7.3		7.4		1.4%	
Iron, Dissolved	0.10	mg/L	0.24		0.22		8.7%	
Manganese, Dissolved	0.010	mg/L	3.8		3.9		2.6%	
Arsenic, Dissolved	0.00050	mg/L	0.0014		0.0012		15%	
Cobalt, Dissolved	0.00050	mg/L	0.0081		0.0074		9.0%	
Dissolved Organic Carbon	0.50	mg/L	0.65		0.67		3.0%	
Samples CH-CCR-W307R-1021 and CH-CCR-FD04-1021								
Chloride	400	mg/L	2,700		2,700		0.0%	
Fluoride	0.80	mg/L	0.56	J	0.55	J	1.8%	
Sulfate	400	mg/L	2,700		2,700		0.0%	
Lithium	0.020	mg/L	0.28		0.26		7.4%	
Boron	0.050	mg/L	2.6		2.5		3.9%	
Calcium	2.0	mg/L	720		700		2.8%	
Iron	0.10	mg/L	0.33	U	0.32		NC	± RL
Manganese	0.010	mg/L	1.8		1.8		0.0%	
Arsenic	0.0010	mg/L	0.0017		0.0018		5.7%	
Barium	0.00075	mg/L	0.028		0.022		24%	J-FD
Cadmium	0.00020	mg/L	0.00071		0.00054		27%	± RL
Chromium	0.0020	mg/L	0.011		0.0092	U	NC	± RL
Cobalt	0.0010	mg/L	0.072		0.062		15%	
Lead	0.0010	mg/L	0.0010		0.00090		11%	
Molybdenum	0.0010	mg/L	0.027		0.022		20%	
Selenium	0.0010	mg/L	0.0021		0.0012		55%	± RL
Thallium	0.00020	mg/L	0.00020	U	0.000054	J	NC	± RL
Ammonia	0.050	mg/L	0.058		0.050	U	NC	± RL
Total Dissolved Solids	100	mg/L	8,400		7,900		6.1%	

Analyte	Average Reporting Limit		Primary Result	Duplicate Result		RPD	Notes
pH	1.7	SU	7.4	7.3		1.4%	
Iron, Dissolved	0.10	mg/L	0.22	0.22		0.0%	
Manganese, Dissolved	0.010	mg/L	1.9	1.9		0.0%	
Arsenic, Dissolved	0.00050	mg/L	0.0019	0.0022		15%	
Cobalt, Dissolved	0.00050	mg/L	0.055	0.056		1.8%	
Dissolved Organic Carbon	0.50	mg/L	1.3	1.3	U	NC	± RL

Note:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-BAP-1021	Alkalinity
CH-CCR-M55-1021	Total Dissolved Solids
CH-CCR-M69-1021	pH
CH-CCR-M71-1021	Total Dissolved Solids
CH-CCR-M79-1021	pH
Ch-CCR-TWX4-1021	Total Dissolved Solids, pH
CH-CCR-TWX9-1021	Alkalinity
CH-CCR-W308-1021	Alkalinity
CH-CCR-W309-1021	pH
Ch-CCR-W317-1021	Total Dissolved Solids

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-173411-2	**Review Date:**	16 December 2021
Validator's Name:	Sam Hass	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-W317-1021	10/21/21 15:30	550-173411-47	

Analytical Method:

Analyte	Analyte Group	Method
Lithium	Metals	EPA 200.7

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability

6. Target analytes detected in the blanks? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability

7. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability

8. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No N/A

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

9. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

Analyte	Average Reporting Limit	Primary Result	Duplicate Result	RPD	Notes

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins Environment Testing America, Phoenix		
Sample Delivery Group:	550-173423-1	**Review Date:**	07 December 2021
Validator's Name:	Brian R Johnson	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-CR1R-1021	10/21/2021 16:53	550-173423-1	
CH-CCR-M56-1021	10/21/2021 12:58	550-173423-2	
CH-CCR-M57-1021	10/21/2021 13:39	550-173423-3	
CH-CCR-M58-1021	10/21/2021 14:22	550-173423-4	
CH-CCR-M62-1021	10/21/2021 11:08	550-173423-5	
CH-CCR-FD02-1021	10/21/2021 16:53	550-173423-6	Field duplicate of CH-CCR-CR1R-1021

Analytical Methods:

Analyte	Analyte Group	Method
Beryllium, Boron, Calcium, Lithium	Metals	EPA 200.7
Antimony, Arsenic, Barium, Cadmium, Chromium, Cobalt, Lead, Molybdenum, Selenium, Thallium	Metals	EPA 200.8
Mercury	Metals	EPA 245.1
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Total Dissolved Solids	General Chemistry	SM 2540C
pH, Temperature	General Chemistry	SM 4500HB

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

Cholla CCR Data Review

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, ammonia, chloride, fluoride, nitrate/nitrite, sulfate, TOC, and/or DOC within 28 days of sampling?

   Yes No N/A

3. Samples Analyzed for alkalinity within 14 days of sampling? Yes No N/A

4. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

5. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection and Analysis	Effect on Data Usability
CH-CCR-CR1R-1021	TDS	13 days	J-HT
CH-CCR-M56-1021	TDS	13 days	J-HT
CH-CCR-M57-1021	TDS	13 days	J-HT
CH-CCR-M58-1021	TDS	13 days	J-HT
CH-CCR-M62-1021	TDS	13 days	J-HT
CH-CCR-FD02-1021	TDS	13 days	J-HT
CH-CCR-CR1R-1021	pH	30,157 minutes	J-HT
CH-CCR-M56-1021	pH	30,392 minutes	J-HT
CH-CCR-M57-1021	pH	30,351 minutes	J-HT
CH-CCR-M58-1021	pH	30,308 minutes	J-HT
CH-CCR-M62-1021	pH	30,502 minutes	J-HT
CH-CCR-FD02-1021	pH	30,157 minutes	J-HT

Note:

HT = Method-recommended maximum hold time was exceeded.

6. Target analytes detected in the blanks? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection	Effect on Data Usability
Boron	0.029 mg/L		

7. LCS recoveries within laboratory-specified limits? Yes **No**

If No:

Analyte	Recovery	QC Limits	Affected Samples	Effect on Data Usability
Barium	Not reported	85-115%	CH-CCR-FD02-1021	J-NQ

Note:

NQ = There was no LCS associated with this result.

8. MS performed on a project-specific sample? **Yes** No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-CR1R-1021	Antimony, Arsenic, Barium, Beryllium, Boron, Cadmium, Calcium, Chloride, Chromium, Cobalt, Fluoride, Lead, Lithium, Mercury, Molybdenum, Selenium, Sulfate, Thallium

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

Notes:

9. Field duplicate collected? **Yes** No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-CR1R-1021	CH-CCR-FD02-1021

b. Are RPDs between primary and duplicate results ≤ 20% or are differences between analyte concentrations ≤ the reporting limit?

Yes No N/A

If No:

Primary Sample ID	Duplicate Sample ID	Analyte	RPD	Effect on Data Usability

FD = Imprecision between primary sample and field duplicate results.

Analyte	Average Reporting Limit		Primary Result		Duplicate Result		RPD	Notes
Samples CH-CCR-CR1R-1021and CH-CCR-FD02-1021								
Antimony	0.00100	mg/L	0.0000750	J	0.00100	U	NC	± RL
Arsenic	0.000500	mg/L	0.000660		0.000700		5.9%	
Barium	0.000500	mg/L	0.0790		0.0820		3.7%	
Boron	0.0530	mg/L	0.160		0.150		6.5%	
Cadmium	0.00010	mg/L	0.0000610	J	0.00010	U	NC	± RL
Calcium	2.10	mg/L	110		110		0.0%	
Chloride	400	mg/L	660		640		3.1%	
Cobalt	0.000500	mg/L	0.0000760	J	0.000500	U	NC	± RL
Fluoride	0.800	mg/L	0.360	J	0.400	J	10.5%	
Lithium	0.0200	mg/L	0.0330		0.0330		0.0%	
Molybdenum	0.000500	mg/L	0.00730		0.00770		5.3%	
pH	1.70	su	7.90		7.90		0.0%	
Selenium	0.000500	mg/L	0.000250	J	0.000780		103%	J-FD
Sulfate	4.00	mg/L	260		260		0%	
Thallium	0.00010	mg/L	0.000380		0.00010	U	NC	J/UJ-FD
Total Dissolved Solids	20.0	mg/L	1,500		1,600		6.5%	

Note:

± RL = The difference between analyte concentrations is less than the reporting limit, indicating acceptable sampling and analytical precision.

FD = Imprecision between primary and field duplicate results.

10. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M58-1021	pH

c. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

11. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins TestAmerica, Phoenix		
Sample Delivery Group:	550-173427-1	**Review Date:**	1 December 2021
Validator's Name:	Marie Bevier	**Reviewed By:**	Denise King

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-1021	10/24/21 15:57	550-173427-1	
CH-CCR-M59-1021	10/24/21 13:01	550-173427-2	
CH-CCR-M60-1021	10/24/21 15:05	550-173427-3	
CH-CCR-M61-1021	10/24/21 14:00	550-173427-4	
CH-CCR-FD01-1021	10/24/21 14:00	550-173427-5	Field duplicate of CH-CCR-M61-1021

Analytical Methods:

Analyte	Analyte Group	Method
Chloride, Fluoride, Sulfate	Anions	EPA 300.0
Boron, Calcium	Metals	EPA 200.7
Total dissolved solids	General Chemistry	SM 2540C
pH	General Chemistry	SM 4500 H+ B

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

Sample Login Matched COC? Yes No

If no, provide details.

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

1. Samples analyzed for metals within 180 days of sampling? Yes No

2. Samples analyzed for mercury, chloride, fluoride, and/or sulfate within 28 days of sampling? Yes No N/A

3. Samples analyzed for total dissolved solids within 7 days of sampling? Yes No N/A

4. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection And Analysis	Effect on data usability
CH-CCR-M54-1021	Total dissolved solids	17 days	J-HT
CH-CCR-M59-1021	Total dissolved solids	17 days	J-HT
CH-CCR-M60-1021	Total dissolved solids	17 days	J-HT
CH-CCR-M61-1021	Total dissolved solids	17 days	J-HT
CH-CCR-FD01-1021	Total dissolved solids	17 days	J-HT
CH-CCR-M54-1021	pH	17 days, 23 hours, 33 minutes	J-HT
CH-CCR-M59-1021	pH	18 days, 2 hours, 29 minutes	J-HT
CH-CCR-M60-1021	pH	18 days, 25 minutes	J-HT
CH-CCR-M61-1021	pH	18 days, 1 hour, 30 minutes	J-HT
CH-CCR-FD01-1021	pH	18 days, 1 hour, 30 minutes	J-HT

Note:

HT = Maximum recommended hold time was exceeded.

5. Target analytes detected in the blank? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection
Boron	0.00442 mg/L	None

Note:

mg/L = milligrams per liter

6. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	Affected Samples

7. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M61-1021	Chloride, Fluoride, Sulfate, Boron, Calcium

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

8. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M61-1021	CH-CCR-FD01-1021

a. Is the RPD between primary and duplicate results ≤ 20% or is the difference between analyte concentrations ≤ the reporting limit?

Yes No N/A

Analyte	Average Reporting Limit		Primary Result	Duplicate Result	RPD	Notes
Samples CH-CCR-M61-1021 and CH-CCR-FD01-1021						
Chloride	400	mg/L	1,400	1,400	0.0%	
Fluoride	0.80	mg/L	1.4	1.4	0.0%	
Sulfate	400	mg/L	400	450	12%	
Boron	0.050	mg/L	0.48	0.49	2.1%	
Calcium	2.0	mg/L	88	89	1.1%	
Total Dissolved Solids	100	mg/L	3,200	3,000	6.5%	
pH	1.7	SU	7.6	7.6	0.0%	

Notes:

RPD = relative percent difference

SU = standard pH units

9. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M54-1021	Total dissolved solids
CH-CCR-M60-1021	pH

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Cholla CCR Data Review

Laboratory Name:	Eurofins TestAmerica, Phoenix		
Sample Delivery Group:	550-173427-2, 550-174639-2	**Review Date:**	17 December 2021
Validator's Name:	Daniel Duran	**Reviewed By:**	Marie Bevier

Sample Summary:

Field Sample Identification	Collection Date and Time	Laboratory Sample Identification	Notes
CH-CCR-M54-1021	10/24/21 15:57	550-173427-1	
CH-CCR-M59-1021	10/24/21 13:01	550-173427-2	
CH-CCR-M60-1021	10/24/21 15:05	550-173427-3	
CH-CCR-M61-1021	10/24/21 14:00	550-173427-4	
CH-CCR-FD01-1021	10/24/21 14:00	550-173427-5	Field duplicate of CH-CCR-M61-1021
CH-CCR-M54-1121	11/19/21 13:46	550-174639-1	
CH-CCR-M59-1121	11/19/21 11:46	550-174639-2	
CH-CCR-M60-1121	11/19/21 13:07	550-174639-3	
CH-CCR-M61-1121	11/19/21 12:26	550-174639-4	
CH-CCR-FD01-1121	11/19/21 12:26	550-174639-5	Field duplicate of CH-CCR-M61-1121

Analytical Methods:

Analyte	Analyte Group	Method
Sulfate	Anions	EPA 300.0

Qualifier Definitions:

J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

R The data are unusable. The sample results are rejected due to serious deficiencies in meeting QC criteria. The analyte may or may not be present in the sample.

U The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.

UJ The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Sample Receipt Condition:

COC Signed and Complete? Yes No
If No, provide details.

COC not included in this report

Sample Login Matched COC? Yes No

If no, provide details.

COC not included in this report

Sample receipt temperature ≤ 6°C? Yes No

If no, provide details.

1. Samples analyzed for metals within 180 days of sampling? Yes No N/A

2. Samples analyzed for mercury, chloride, fluoride, and/or sulfate within 28 days of sampling?

   Yes No N/A

3. Samples analyzed for total dissolved solids within 7 days of sampling?

   Yes No N/A

4. Samples analyzed for pH within 15 minutes of sampling? Yes No N/A

If No:

Sample ID	Analysis	Time Between Collection And Analysis	Effect on data usability
CH-CCR-M54-1021	Sulfate	38 days	J-HT
CH-CCR-M59-1021	Sulfate	38 days	J-HT
CH-CCR-M60-1021	Sulfate	38 days	J-HT
CH-CCR-M61-1021	Sulfate	38 days	J-HT
CH-CCR-FD01-1021	Sulfate	38 days	J-HT

Note:

HT = Maximum recommended hold time was exceeded.

5. Target analytes detected in the blank? Yes No

If Yes:

Detected Analyte	Concentration	Samples with concentrations less than 5 times the blank detection

Note:

mg/L = milligrams per liter

6. LCS recoveries within laboratory-specified limits? Yes No

If No:

Analyte	Recovery	Affected Samples

7. MS performed on a project-specific sample? Yes No

If Yes:

Spiked Sample ID	Spiked Analyte(s)
CH-CCR-M61-1021	Sulfate

a. Are MS recoveries and/or precision within laboratory specified limits?

Yes No

If No:

Sample ID	Analyte	RPD or Recovery	Accuracy or Recovery Limits	Effect on Data Usability

8. Field duplicate collected? Yes No

If Yes:

Parent Sample	Field Duplicate
CH-CCR-M61-1021	CH-CCR-FD01-1021
CH-CCR-M61-1121	CH-CCR-FD01-1121

a. Is the RPD between primary and duplicate results ≤ 20% or is the difference between analyte concentrations ≤ the reporting limit?

Yes No N/A

Analyte	Average Reporting Limit	Primary Result (mg/L)	Duplicate Result (mg/L)	RPD	Notes
Samples CH-CCR-M61-1021 and CH-CCR-FD01-1021					
Sulfate	20 mg/L	400	400	0%	
Sulfate	20 mg/L	390	380	2.6%	
Samples CH-CCR-M61-1121 and CH-CCR-FD01-1121					
Sulfate	4.0 mg/L	370	370	0%	

Notes:

RPD = relative percent difference

SU = standard pH units

9. Did the laboratory perform duplicate analyses on project-specific samples?

Yes No

If Yes:

Sample ID	Analysis
CH-CCR-M61-1121	Sulfate

a. Is the RPD between duplicate results within laboratory-specified limits or is the difference between analyte concentrations less than the reporting limit?

Yes No N/A

If No:

Sample ID	Analyte	Effect on Data Usability

10. Are non-detect results sufficiently low to meet EPA primary drinking water criteria?

Yes No

Analyte	List	MCL	Alternative GWPS	Units
Antimony	Appendix IV	0.006	--	mg/L
Arsenic	Appendix IV	0.010	--	mg/L
Barium	Appendix IV	2	--	mg/L
Beryllium	Appendix IV	0.004	--	mg/L
Boron	Appendix III	--	--	mg/L
Cadmium	Appendix IV	0.005	--	mg/L
Calcium	Appendix III	--	--	mg/L
Chloride	Appendix III	--	--	mg/L
Chromium	Appendix IV	0.1	--	mg/L
Cobalt	Appendix IV	--	0.006	mg/L
Fluoride	Appendix III/IV	4.0	--	mg/L
Lead	Appendix IV	--	0.015	mg/L
Lithium	Appendix IV	--	0.040	mg/L
Mercury	Appendix IV	0.002	--	mg/L
Molybdenum	Appendix IV	--	0.1	mg/L
pH	Appendix III	--	--	s.u.
Radium 226 + Radium 228	Appendix IV	5	--	pCi/L
Selenium	Appendix IV	0.05	--	mg/L
Sulfate	Appendix III	--	--	mg/L
Total Dissolved Solids	Appendix III	--	--	mg/L
Thallium	Appendix IV	0.002	--	mg/L

If No, list affected samples and analytes.

Sample ID	Analyte	Reporting Limit

Appendix D

Groundwater Quality Data Tables Through 2021

Groundwater Quality Data for the BAM Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.55*	*101*	*1,600*	*1.8 / 1.5**	*7.3 - 7.8*	*380*	*3,225*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	12/03/2015	0.52	100	1,500	1.2	7.34	380	3,000	< 0.0025	0.0041	0.05	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.2	< 0.00050	< 0.20	0.0086	< 0.00020	0.00018	< 0.00010	4.0
M-54	Background	Coconino Sandstone	03/10/2016	0.53	100	1,600	1.3	7.56	360	2,900	< 0.015	0.0073 j	0.05	< 0.0010	< 0.00046	< 0.0087	0.0013 j	1.3	< 0.0044	< 0.20	0.0067 j	< 0.00020	< 0.0015	< 0.00026	5.5
M-54	Background	Coconino Sandstone	05/20/2016	0.51	100	1,500	1.4	--	350	3,000	0.00015	0.0067	0.03	< 0.0010	< 0.00010	< 0.00050	0.00058	1.4	0.00065	< 0.20	0.0055	< 0.00020	< 0.00050	< 0.00010	6.3
M-54	Background	Coconino Sandstone	08/27/2016	0.53	110	1,600	1.4	7.5	370	3,100	< 0.00010	0.0077	0.03	< 0.0010	< 0.00010	0.00056	0.00057	1.4	< 0.00050	< 0.20	0.0060	< 0.00020	< 0.00050	< 0.00010	7.5
M-54	Background	Coconino Sandstone	09/22/2016	0.52	99	1,400	1.3	7.7	350	3,200	< 0.00050	0.0074	0.030	< 0.0010	< 0.00010	< 0.00050	0.00055	1.3	< 0.00010	< 0.20	0.0064	< 0.00020	< 0.00060	< 0.00010	6.3
M-54	Background	Coconino Sandstone	02/21/2017	0.52	100	1,300	1.3	7.7	350	2,900	< 0.0010	0.0072	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.3	< 0.00050	< 0.20	0.0056	< 0.00020	< 0.00050	< 0.00010	6.6
M-54	Background	Coconino Sandstone	04/11/2017	0.51	100	1,500	1.3	7.7	360	3,100	< 0.0010	0.0077	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.3	< 0.00050	< 0.20	0.0058	< 0.00020	< 0.00050	< 0.00010	8.1
M-54	Background	Coconino Sandstone	04/24/2017	0.53	95	1,500	1.3	7.6	370	3,000	< 0.0010	0.0075	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.3	< 0.00050	< 0.20	0.0058	< 0.00020	< 0.00050	< 0.00010	5.6
M-54	Background	Coconino Sandstone	05/19/2017	0.50	99	1,600	1.3	7.8	380	3,200	< 0.0010	0.0068	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.3	< 0.00050	< 0.20	0.0054	< 0.00020	< 0.00050	< 0.00010	8.4
M-54	Background	Coconino Sandstone	05/25/2017	0.52	100	1,500	1.4	7.7	370	3,200	< 0.0010	0.0079	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0056	< 0.00020	< 0.00050	< 0.00010	9.6
M-54	Background	Coconino Sandstone	06/29/2017	0.51	97	1,600	1.4	7.6	380	2,900	< 0.0010	0.0074	0.03	< 0.0010	< 0.00010	< 0.00050	< 0.00050	1.4	< 0.00050	< 0.20	0.0059	< 0.00020	< 0.00050	< 0.00010	9.0
M-54	Background	Coconino Sandstone	07/29/2017	0.56	100	1,500	1.4	7.4	350	3,100	< 0.0020	0.0074	0.03	< 0.0010	< 0.00020	< 0.0010	< 0.0010	1.4	< 0.0010	< 0.20	0.0057	< 0.00020	< 0.0010	< 0.00020	6.5
M-54	Background	Coconino Sandstone	09/05/2017	0.55	100	1,500	1.4	7.5	370	3,100	< 0.0040	0.0076	0.03	< 0.0010	< 0.00040	< 0.0040	< 0.0020	1.4	< 0.0020	< 0.20	0.0059	< 0.00020	< 0.0020	< 0.00040	6.4
M-54	Background	Coconino Sandstone	12/07/2017	0.51	97	1,600	1.4	7.6	360	3,000	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	05/25/2018	0.50	96	1,500	1.4	7.4	350	3,000	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/26/2018	0.50	100	1,500	1.4	7.5	360	2,900	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	04/09/2019	0.53	98	1,400	1.3	7.7	340	3,100	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/22/2019	0.49	95	1,500	1.3	7.4 J	350	2,900	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	05/07/2020	0.51	98	1,400	1.8	7.6 J	360	3,100	--	--	--	--	--	--	--	1.8	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/21/2020	0.48	92	1,500	1.3	7.3 J	350	2,900	--	--	--	--	--	--	--	1.3	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	04/16/2021	0.52	100	1,700	1.4	7.6 J	420	3,300	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/24/2021	0.50	96	1,500	1.4	7.7 J	400	2,700 J	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/24/2021	--	--	--	--	--	400 J/390 J	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	11/19/2021	--	--	--	--	--	370	2,300	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents														
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.55*	*101*	*1,600*	*1.8 / 1.5**	*7.3 - 7.8*	*380*	*3,225*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	12/03/2015	**0.50**	**87**	**1,300**	**1.3**	**7.53**	**340**	**2,700**	< 0.0025	**0.0049**	**0.05**	< 0.0010	< 0.00010	< 0.00050	**0.0013**	**1.3**	< 0.00050	< 0.20	**0.0063**	< 0.00020	**0.00013**	< 0.00010	**5.4**
M-59	Downgradient	Coconino Sandstone	03/10/2016	**0.48**	**85**	**1,400**	**1.3**	**7.57**	**350**	**2,700**	< 0.015	**0.0069 j**	**0.03**	< 0.0010	< 0.00046	< 0.0087	< 0.0013	**1.3**	< 0.0044	< 0.20	**0.0058 j**	< 0.00020	< 0.0015	< 0.00026	**5.4**
M-59	Downgradient	Coconino Sandstone	05/20/2016	**0.49**	**86**	**1,400**	**1.4**	--	**340**	**2,700**	< 0.00010	**0.0073**	**0.03**	< 0.0010	< 0.00010	**0.00063**	**0.00085**	**1.4**	**0.00068**	< 0.20	**0.0059**	< 0.00020	< 0.00050	< 0.00010	**7.4**
M-59	Downgradient	Coconino Sandstone	08/27/2016	**0.50**	**89**	**1,400**	**1.4**	**7.6**	**350**	**2,700**	< 0.00010	**0.0082**	**0.030**	< 0.0010	< 0.00010	< 0.00050	**0.00062**	**1.4**	< 0.00050	< 0.20	**0.0065**	< 0.00020	< 0.00050	< 0.00010	**8.1**
M-59	Downgradient	Coconino Sandstone	09/22/2016	**0.50**	**88**	**1,300**	**1.4**	**7.8**	**340**	**2,900**	< 0.00050	**0.0085**	**0.03**	< 0.0010	< 0.00010	< 0.00050	**0.00055**	**1.4**	< 0.00010	< 0.20	**0.0063**	< 0.00020	< 0.00060	< 0.00010	**7.2**
M-59	Downgradient	Coconino Sandstone	02/22/2017	**0.48**	**86**	**1,200**	**1.3**	**7.8**	**330**	**2,800**	< 0.0010	**0.0081**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.3**	< 0.00050	< 0.20	**0.0058**	< 0.00020	< 0.00050	< 0.00010	**7.7**
M-59	Downgradient	Coconino Sandstone	04/11/2017	**0.49**	**90**	**1,400**	**1.3**	**8.1**	**350**	**2,800**	< 0.0010	**0.0083**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.3**	< 0.00050	< 0.20	**0.0063**	< 0.00020	< 0.00050	< 0.00010	**7.7**
M-59	Downgradient	Coconino Sandstone	04/24/2017	**0.52**	**89**	**1,300**	**1.4**	**7.7**	**350**	**2,800**	< 0.0010	**0.0082**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0058**	< 0.00020	< 0.00050	< 0.00010	**8.0**
M-59	Downgradient	Coconino Sandstone	05/19/2017	**0.50**	**93**	**1,400**	**1.4**	**7.8**	**360**	**2,700**	< 0.0010	**0.0077**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0056**	< 0.00020	< 0.00050	< 0.00010	**7.1**
M-59	Downgradient	Coconino Sandstone	05/25/2017	**0.50**	**88**	**1,300**	**1.4**	**7.6**	**350**	**2,700**	< 0.0010	**0.0073**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	**0.00061**	< 0.20	**0.0059**	< 0.00020	< 0.00050	< 0.00010	**8.0**
M-59	Downgradient	Coconino Sandstone	06/29/2017	**0.49**	**84**	**1,400**	**1.5**	**7.8**	**370**	**2,500**	< 0.0010	**0.0086**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0058**	< 0.00020	< 0.00050	< 0.00010	**9.0**
M-59	Downgradient	Coconino Sandstone	07/29/2017	**0.53**	**92**	**1,300**	**1.5**	**7.6**	**340**	**2,800**	< 0.0020	**0.0085**	**0.03**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	**1.5**	< 0.0010	< 0.20	**0.0058**	< 0.00020	< 0.0010	< 0.00020	**7.9**
M-59	Downgradient	Coconino Sandstone	09/05/2017	**0.51**	**90**	**1,300**	**1.4**	**7.7**	**360**	**2,700**	< 0.0040	**0.0085**	**0.03**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	**1.4**	< 0.0020	< 0.20	**0.0062**	< 0.00020	< 0.0020	< 0.00040	**7.6**
M-59	Downgradient	Coconino Sandstone	12/07/2017	**0.49**	**86**	**1,400**	**1.4**	**7.7**	**350**	**2,700**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	05/25/2018	**0.49**	**85**	**1,400**	**1.4**	**7.5**	**350**	**2,700**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/26/2018	**0.48**	**88**	**1,400**	**1.4**	**7.6**	**360**	**2,500**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/09/2019	**0.50**	**86**	**1,200**	**1.4**	**7.9 J**	**330**	**2,700**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/23/2019	**0.48**	**84**	**1,400**	**1.3**	**7.5 J**	**350**	**2,800**	--	--	--	--	--	--	--	**1.3**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	05/07/2020	**0.50**	**89**	**1,200**	**1.8**	**7.7 J**	**350**	**2,800**	--	--	--	--	--	--	--	**1.8**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/21/2020	**0.48**	**85**	**1,300**	**1.4**	**7.5 J**	**340**	**2,700**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	01/13/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.051**	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/16/2021	**0.49**	**87**	**1,200**	**1.4**	**7.6 J**	**340**	**2,800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/16/2021	**0.48**	**86**	**1,300**	**1.4**	**7.8 J**	**350**	**2,800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/24/2021	**0.49**	**84**	**1,300**	**1.4**	**7.7 J**	**400**	**2,300 J**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	**390 J/370 J****	--	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	**360**	**2,600**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents														
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.55*	*101*	*1,600*	*1.8 / 1.5**	*7.3 - 7.8*	*380*	*3,225*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	12/03/2015	**0.54**	**88**	**1,400**	**1.3**	**7.56**	**350**	**2,800**	< 0.0025	**0.0078**	**0.03**	< 0.0010	< 0.00010	< 0.00050	**0.00074**	**1.3**	< 0.00050	< 0.20	**0.0058**	< 0.00020	**0.00016**	< 0.00010	**7.8**
M-60	Downgradient	Coconino Sandstone	03/09/2016	**0.50**	**86**	**1,400**	**1.4**	**7.83**	**350**	**2,800**	< 0.015	**0.0084 j**	**0.03**	< 0.0010	< 0.00046	< 0.0087	< 0.0013	**1.4**	< 0.0044	< 0.20	**0.0058 j**	< 0.00020	< 0.0015	< 0.00026	**2.6**
M-60	Downgradient	Coconino Sandstone	05/20/2016	**0.50**	**89**	**1,400**	**1.5**	**--**	**350**	**2,800**	< 0.00010	**0.0077**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0058**	< 0.00020	< 0.00050	< 0.00010	**7.9**
M-60	Downgradient	Coconino Sandstone	08/27/2016	**0.52**	**90**	**1,400**	**1.5**	**7.5**	**360**	**2,800**	< 0.00010	**0.0091**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0061**	< 0.00020	< 0.00050	< 0.00010	**8.7**
M-60	Downgradient	Coconino Sandstone	09/22/2016	**0.51**	**88**	**1,300**	**1.4**	**7.8**	**350**	**3,000**	< 0.00050	**0.0088**	**0.02**	< 0.0010	< 0.00010	< 0.00050	**0.00034**	**1.4**	**0.00011**	< 0.20	**0.0066**	< 0.00020	< 0.00060	**0.00010**	**8.3**
M-60	Downgradient	Coconino Sandstone	02/22/2017	**0.52**	**91**	**1,300**	**1.4**	**7.8**	**340**	**2,800**	< 0.0010	**0.0084**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0058**	< 0.00020	< 0.00050	< 0.00010	**8.2**
M-60	Downgradient	Coconino Sandstone	04/11/2017	**0.48**	**90**	**1,400**	**1.4**	**8.0**	**360**	**2,900**	< 0.0010	**0.0087**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0061**	< 0.00020	< 0.00050	< 0.00010	**6.9**
M-60	Downgradient	Coconino Sandstone	04/11/2017	**0.47**	**84**	**1,300**	**1.4**	**7.8**	**370**	**2,900**	< 0.0010	**0.0084**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0059**	< 0.00020	< 0.00050	< 0.00010	**8.8**
M-60	Downgradient	Coconino Sandstone	04/24/2017	**0.53**	**86**	**1,400**	**1.4**	**7.8**	**350**	**2,700**	< 0.0010	**0.0087**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0059**	< 0.00020	< 0.00050	< 0.00010	**7.2**
M-60	Downgradient	Coconino Sandstone	05/19/2017	**0.53**	**92**	**1,400**	**1.4**	**7.7**	**360**	**2,800**	< 0.0010	**0.0079**	**0.020**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0054**	< 0.00020	< 0.00050	< 0.00010	**8.6**
M-60	Downgradient	Coconino Sandstone	05/25/2017	**0.51**	**86**	**1,300**	**1.4**	**7.7**	**350**	**2,800**	< 0.0010	**0.0097**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0060**	< 0.00020	< 0.00050	< 0.00010	**10.2**
M-60	Downgradient	Coconino Sandstone	06/29/2017	**0.51**	**84**	**1,500**	**1.5**	**7.7**	**440**	**2,500**	< 0.0010	**0.0086**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0064**	< 0.00020	< 0.00050	< 0.00010	**8.1**
M-60	Downgradient	Coconino Sandstone	06/29/2017	**0.50**	**84**	**1,500**	**1.5**	**7.8**	**380**	**2,700**	< 0.0010	**0.0086**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	**0.00090**	< 0.20	**0.0063**	< 0.00020	< 0.00050	< 0.00010	**9.0**
M-60	Downgradient	Coconino Sandstone	07/29/2017	**0.53**	**89**	**1,400**	**1.5**	**7.6**	**370**	**2,800**	< 0.0020	**0.010**	**0.03**	< 0.0010	**0.00037**	< 0.0010	< 0.0010	**1.5**	< 0.0010	< 0.20	**0.0075**	< 0.00020	< 0.0010	< 0.00020	**8.4**
M-60	Downgradient	Coconino Sandstone	09/05/2017	**0.53**	**90**	**1,400**	**1.5**	**7.6**	**360**	**2,800**	< 0.0040	**0.0097**	**0.02**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	**1.5**	< 0.0020	< 0.20	**0.0065**	< 0.00020	< 0.0020	< 0.00040	**8.5**
M-60	Downgradient	Coconino Sandstone	09/05/2017	**0.52**	**89**	**1,400**	**1.5**	**7.6**	**360**	**2,700**	< 0.0040	**0.0095**	**0.02**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	**1.5**	< 0.0020	< 0.20	**0.0063**	< 0.00020	< 0.0020	< 0.00040	**7.6**
M-60	Downgradient	Coconino Sandstone	12/07/2017	**0.50**	**85**	**1,500**	**1.4**	**7.6**	**360**	**2,900**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	12/07/2017	**0.51**	**86**	**1,400**	**1.4**	**7.6**	**350**	**2,900**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	05/25/2018	**0.50**	**83**	**1,400**	**1.5**	**7.5**	**350**	**2,800**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/26/2018	**0.49**	**88**	**1,400**	**1.4**	**7.7**	**350**	**2,600**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	04/09/2019	**0.51**	**84**	**1,300**	**1.4**	**7.7 J**	**350**	**2,800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/22/2019	**0.50**	**85**	**1,400**	**1.4**	**7.6 J**	**360**	**2,800**	--	--	--	--	--	--	--	**1.4**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	05/07/2020	**0.50**	**88**	**1,200**	**1.7**	**7.7 J**	**350**	**2,900**	--	--	--	--	--	--	--	**1.7**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/21/2020	**0.48**	**82**	**1,400**	**1.4 J**	**7.5 J**	**340**	**2,900**	--	--	--	--	--	--	--	**1.4 J**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/21/2020	**0.48**	**83**	**1,200**	**1.5 J**	**7.4 J**	**340**	**2,900**	--	--	--	--	--	--	--	**1.5 J**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	01/13/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.042**	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	04/16/2021	**0.49**	**85**	**1,300**	**1.5**	**7.8 J**	**340**	**4,200**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	07/07/2021	--	--	--	--	--	--	**2,700**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/24/2021	**0.49**	**85**	**1,300**	**1.5**	**7.6 J**	**450**	**2,900 J**	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	**390 J / 380 J**	--	--	--	--	--	--	--	--	**1.5**	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	**370**	**2,200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents														
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Fluoride	Lead	Lithium	Molybdenum	Mercury	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.55*	*101*	*1,600*	*1.8 / 1.5**	*7.3 - 7.8*	*380*	*3,225*	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	12/03/2015	**0.51**	**90**	**1,400**	**1.3**	**7.22**	**350**	**2,800**	< 0.0025	**0.0063**	**0.04**	< 0.0010	< 0.00010	**0.00093**	**0.00098**	**1.3**	< 0.00050	< 0.20	**0.0064**	< 0.00020	**0.00019**	< 0.00010	**7.1**
M-61	Downgradient	Coconino Sandstone	03/10/2016	**0.49**	**90**	**1,400**	**1.4**	**7.59**	**340**	**2,800**	< 0.015	**0.010**	**0.030**	< 0.0010	< 0.00046	< 0.0087	< 0.0013	**1.4**	< 0.0044	< 0.20	**0.0063 j**	< 0.00020	< 0.0015	< 0.00026	**7.3**
M-61	Downgradient	Coconino Sandstone	05/20/2016	**0.49**	**89**	**1,400**	**1.4**	**--**	**350**	**2,800**	< 0.00010	**0.0081**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0053**	< 0.00020	< 0.00050	< 0.00010	**7.7**
M-61	Downgradient	Coconino Sandstone	08/27/2016	**0.50**	**90**	**1,400**	**1.5**	**7.5**	**360**	**2,900**	< 0.00010	**0.0091**	**0.03**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0061**	< 0.00020	< 0.00050	< 0.00010	**9.8**
M-61	Downgradient	Coconino Sandstone	09/22/2016	**0.50**	**90**	**1,300**	**1.4**	**7.9**	**350**	**3,000**	< 0.00050	**0.0086**	**0.02**	< 0.0010	< 0.00010	< 0.00050	**0.00037**	**1.4**	< 0.00010	< 0.20	**0.0059**	< 0.00020	< 0.00060	< 0.00010	**8.3**
M-61	Downgradient	Coconino Sandstone	02/22/2017	**0.50**	**92**	**1,100**	**1.4**	**7.8**	**340**	**2,700**	< 0.0010	**0.0079**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0057**	< 0.00020	< 0.00050	< 0.00010	**7.5**
M-61	Downgradient	Coconino Sandstone	04/11/2017	**0.50**	**93**	**1,700**	**1.4**	**8.0**	**420**	**3,000**	< 0.0010	**0.012**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0059**	< 0.00020	< 0.00050	< 0.00010	**7.8**
M-61	Downgradient	Coconino Sandstone	04/24/2017	**0.52**	**88**	**1,400**	**1.4**	**7.7**	**360**	**2,700**	< 0.0010	**0.0084**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0056**	< 0.00020	< 0.00050	< 0.00010	**8.6**
M-61	Downgradient	Coconino Sandstone	05/19/2017	**0.50**	**92**	**1,400**	**1.3**	**7.8**	**370**	**2,800**	< 0.0010	**0.0077**	**0.020**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.3**	< 0.00050	< 0.20	**0.0052**	< 0.00020	< 0.00050	< 0.00010	**8.6**
M-61	Downgradient	Coconino Sandstone	05/25/2017	**0.51**	**92**	**1,400**	**1.4**	**7.7**	**370**	**2,800**	< 0.0010	**0.0098**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.4**	< 0.00050	< 0.20	**0.0062**	< 0.00020	< 0.00050	< 0.00010	**8.7**
M-61	Downgradient	Coconino Sandstone	06/29/2017	**0.50**	**86**	**1,500**	**1.5**	**7.8**	**380**	**2,700**	< 0.0010	**0.0086**	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	**1.5**	< 0.00050	< 0.20	**0.0056**	< 0.00020	< 0.00050	< 0.00010	**8.1**
M-61	Downgradient	Coconino Sandstone	07/29/2017	**0.52**	**94**	**1,300**	**1.5**	**7.6**	**360**	**2,900**	< 0.0020	**0.0086**	**0.02**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	**1.5**	< 0.0010	< 0.20	**0.0056**	< 0.00020	< 0.0010	< 0.00020	**8.0**
M-61	Downgradient	Coconino Sandstone	09/05/2017	**0.50**	**91**	**1,400**	**1.5**	**7.6**	**360**	**2,800**	< 0.0040	**0.0096**	**0.03**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	**1.5**	< 0.0020	< 0.20	**0.0064**	< 0.00020	< 0.0020	< 0.00040	**8.3**
M-61	Downgradient	Coconino Sandstone	12/07/2017	**0.49**	**88**	**1,500**	**1.4**	**7.6**	**360**	**2,900**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	05/25/2018	**0.48**	**87**	**1,400**	**1.5**	**7.5**	**390**	**2,800**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/26/2018	**0.48**	**91**	**1,400**	**1.4**	**7.5**	**360**	**2,600**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	04/09/2019	**0.50**	**88**	**1,300**	**1.4**	**7.7 J**	**340**	**2,800**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/22/2019	**0.48**	**87**	**1,400**	**1.4**	**7.8 J**	**350**	**2,700**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	05/07/2020	**0.51**	**93**	**1,300**	**1.6**	**7.7 J**	**350**	**3,000**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.6**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	05/07/2020	**0.51**	**93**	**1,200**	**1.7**	**7.6 J**	**350**	**2,900**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.7**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/21/2020	**0.48**	**88**	**1,400**	**1.4**	**7.5 J**	**350**	**2,700**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	01/13/2021	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**0.045**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	04/16/2021	**0.49**	**91**	**1,300**	**1.5**	**7.8 J**	**340**	**2,900**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/24/2021	**0.48**	**88**	**1,400**	**1.4**	**7.6 J**	**400**	**3,200 J**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/24/2021	**0.49**	**89**	**1,400**	**1.4**	**7.6 J**	**450**	**3,000 J**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/24/2021	**--**	**--**	**--**	**--**	**--**	**400 J / 390 J**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/24/2021	**0.49**	**89**	**1,400**	**1.4**	**7.6 J**	**450**	**3,000 J**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	10/24/2021	**--**	**--**	**--**	**--**	**--**	**400 J / 380 J**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**1.4**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	11/19/2021	**--**	**--**	**--**	**--**	**--**	**370**	**2,300**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
M-61	Downgradient	Coconino Sandstone	11/19/2021	**--**	**--**	**--**	**--**	**--**	**370**	**2,300**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**

Groundwater Quality Data for the BAM Monitoring Wells

				Additional Analyses								
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SIO2, Silica	Sodium
			Filtered:	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	12/03/2015	**220**	< 6.0	< 6.0	**36**	**4.5**	**2.6**	**1.4**	**10**	**1,000**
M-54	Background	Coconino Sandstone	03/10/2016	--	--	--	--	--	**3.6**	**1.9**	--	--
M-54	Background	Coconino Sandstone	05/20/2016	**210**	< 6.0	< 6.0	**34**	**4.1**	**3.6**	**2.7**	**8.8**	**990**
M-54	Background	Coconino Sandstone	08/27/2016	--	--	--	--	--	**4.3**	**3.2**	--	--
M-54	Background	Coconino Sandstone	09/22/2016	--	--	--	--	--	**3.7**	**2.6**	--	--
M-54	Background	Coconino Sandstone	02/21/2017	**210**	< 6.0	< 6.0	**36**	**4.4**	**4.1**	**2.5**	--	**1,000**
M-54	Background	Coconino Sandstone	04/11/2017	**220**	< 6.0	< 6.0	**34**	**4.1**	**5.1**	**3.0**	--	**950**
M-54	Background	Coconino Sandstone	04/24/2017	**220**	< 6.0	< 6.0	**35**	**4.3**	**3.3**	**2.3**	--	**1,000**
M-54	Background	Coconino Sandstone	05/19/2017	**220**	< 6.0	< 6.0	**35**	**4.0**	**5.7**	**2.7**	--	**950**
M-54	Background	Coconino Sandstone	05/25/2017	**220**	< 6.0	< 6.0	**36**	**4.2**	**5.9**	**3.7**	--	**1,000**
M-54	Background	Coconino Sandstone	06/29/2017	**220**	< 6.0	< 6.0	**35**	**4.1**	**6.1**	**2.9**	--	**970**
M-54	Background	Coconino Sandstone	07/29/2017	**220**	< 6.0	< 6.0	**37**	**4.2**	**3.8**	**2.7**	--	**990**
M-54	Background	Coconino Sandstone	09/05/2017	**220**	< 6.0	< 6.0	**36**	**4.2**	**3.9**	**2.5**	--	**1,000**
M-54	Background	Coconino Sandstone	12/07/2017	**220**	< 6.0	< 6.0	**33**	**4.1**	--	--	--	**940**
M-54	Background	Coconino Sandstone	05/25/2018	**220**	< 6.0	< 6.0	**33**	**3.9**	--	--	--	**920**
M-54	Background	Coconino Sandstone	10/26/2018	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	04/09/2019	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/22/2019	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	05/07/2020	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/21/2020	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	04/16/2021	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-54	Background	Coconino Sandstone	11/19/2021	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Additional Analyses								
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium
			Filtered:	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	12/03/2015	**210**	< 6.0	< 6.0	**32**	**4.3**	**3.2**	**2.2**	**9.5**	**910**
M-59	Downgradient	Coconino Sandstone	03/10/2016	--	--	--	--	--	**3.1**	**2.3**	--	--
M-59	Downgradient	Coconino Sandstone	05/20/2016	**210**	< 6.0	< 6.0	**31**	**4.0**	**4.6**	**2.8**	**8.9**	**870**
M-59	Downgradient	Coconino Sandstone	08/27/2016	--	--	--	--	--	**5.2**	**2.9**	--	--
M-59	Downgradient	Coconino Sandstone	09/22/2016	--	--	--	--	--	**4.2**	**3.0**	--	--
M-59	Downgradient	Coconino Sandstone	02/22/2017	**210**	< 6.0	< 6.0	**31**	**4.1**	**5.2**	**2.5**	--	**880**
M-59	Downgradient	Coconino Sandstone	04/11/2017	**220**	< 6.0	< 6.0	**31**	**4.0**	**5.4**	**2.3**	--	**870**
M-59	Downgradient	Coconino Sandstone	04/24/2017	**220**	< 6.0	< 6.0	**32**	**4.2**	**4.6**	**3.4**	--	**950**
M-59	Downgradient	Coconino Sandstone	05/19/2017	**220**	< 6.0	< 6.0	**32**	**4.2**	**5.1**	**2.0**	--	**920**
M-59	Downgradient	Coconino Sandstone	05/25/2017	**220**	< 6.0	< 6.0	**32**	**4.1**	**4.9**	**3.1**	--	**910**
M-59	Downgradient	Coconino Sandstone	06/29/2017	**220**	< 6.0	< 6.0	**31**	**3.9**	**5.2**	**3.8**	--	**860**
M-59	Downgradient	Coconino Sandstone	07/29/2017	**220**	< 6.0	< 6.0	**33**	**4.1**	**4.5**	**3.4**	--	**900**
M-59	Downgradient	Coconino Sandstone	09/05/2017	**220**	< 6.0	< 6.0	**32**	**4.1**	**4.6**	**3.0**	--	**910**
M-59	Downgradient	Coconino Sandstone	12/07/2017	**220**	< 6.0	< 6.0	**30**	**3.9**	--	--	--	**860**
M-59	Downgradient	Coconino Sandstone	05/25/2018	**220**	< 6.0	< 6.0	**30**	**3.9**	--	--	--	**850**
M-59	Downgradient	Coconino Sandstone	10/26/2018	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/09/2019	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/23/2019	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	05/07/2020	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/21/2020	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	01/13/2021	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/16/2021	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	04/16/2021	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-59	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Additional Analyses								
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium
			Filtered:	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	12/03/2015	**210**	< 6.0	< 6.0	**32**	**4.2**	**4.0**	**3.8**	**9.4**	**960**
M-60	Downgradient	Coconino Sandstone	03/09/2016	--	--	--	--	--	< 0.2	**2.6**	--	--
M-60	Downgradient	Coconino Sandstone	05/20/2016	**210**	< 6.0	< 6.0	**30**	**3.9**	**4.2**	**3.7**	**8.7**	**950**
M-60	Downgradient	Coconino Sandstone	08/27/2016	--	--	--	--	--	**5.4**	**3.3**	--	--
M-60	Downgradient	Coconino Sandstone	09/22/2016	--	--	--	--	--	**5.2**	**3.1**	--	--
M-60	Downgradient	Coconino Sandstone	02/22/2017	**210**	< 6.0	< 6.0	**31**	**4.2**	**4.3**	**3.9**	--	**960**
M-60	Downgradient	Coconino Sandstone	04/11/2017	**220**	< 6.0	< 6.0	**29**	**3.8**	**4.4**	**2.5**	--	**890**
M-60	Downgradient	Coconino Sandstone	04/11/2017	**220**	< 6.0	< 6.0	**29**	**3.7**	**4.8**	**4.0**	--	**880**
M-60	Downgradient	Coconino Sandstone	04/24/2017	**220**	< 6.0	< 6.0	**32**	**4.1**	**4.8**	**2.4**	--	**970**
M-60	Downgradient	Coconino Sandstone	05/19/2017	**220**	< 6.0	< 6.0	**32**	**4.0**	**6.1**	**2.5**	--	**950**
M-60	Downgradient	Coconino Sandstone	05/25/2017	**220**	< 6.0	< 6.0	**31**	**3.9**	**4.8**	**5.4**	--	**950**
M-60	Downgradient	Coconino Sandstone	06/29/2017	**220**	< 6.0	< 6.0	**31**	**3.8**	**5.0**	**3.1**	--	**910**
M-60	Downgradient	Coconino Sandstone	06/29/2017	**220**	< 6.0	< 6.0	**30**	**3.9**	**4.8**	**4.2**	--	**930**
M-60	Downgradient	Coconino Sandstone	07/29/2017	**220**	< 6.0	< 6.0	**31**	**3.8**	**5.0**	**3.4**	--	**900**
M-60	Downgradient	Coconino Sandstone	09/05/2017	**220**	< 6.0	< 6.0	**32**	**4.2**	**4.9**	**3.6**	--	**970**
M-60	Downgradient	Coconino Sandstone	09/05/2017	**220**	< 6.0	< 6.0	**31**	**4.0**	**4.4**	**3.2**	--	**930**
M-60	Downgradient	Coconino Sandstone	12/07/2017	**220**	< 6.0	< 6.0	**29**	**3.8**	--	--	--	**890**
M-60	Downgradient	Coconino Sandstone	12/07/2017	**220**	< 6.0	< 6.0	**29**	**3.9**	--	--	--	**900**
M-60	Downgradient	Coconino Sandstone	05/25/2018	**230**	< 6.0	< 6.0	**29**	**3.6**	--	--	--	**870**
M-60	Downgradient	Coconino Sandstone	10/26/2018	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	04/09/2019	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/22/2019	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	05/07/2020	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/21/2020	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/21/2020	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	01/13/2021	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	04/16/2021	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	07/07/2021	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-60	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	--	--	--	--

Groundwater Quality Data for the BAM Monitoring Wells

				Additional Analyses								
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Magnesium	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium
			Filtered:	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	12/03/2015	210	< 6.0	< 6.0	33	4.0	3.8	3.3	9.3	950
M-61	Downgradient	Coconino Sandstone	03/10/2016	--	--	--	--	--	4.5	2.8	--	--
M-61	Downgradient	Coconino Sandstone	05/20/2016	210	< 6.0	< 6.0	31	3.7	4.3	3.4	8.8	890
M-61	Downgradient	Coconino Sandstone	08/27/2016	--	--	--	--	--	5.7	4.1	--	--
M-61	Downgradient	Coconino Sandstone	09/22/2016	--	--	--	--	--	5.2	3.1	--	--
M-61	Downgradient	Coconino Sandstone	02/22/2017	210	< 6.0	< 6.0	32	4.2	4.2	3.3	--	930
M-61	Downgradient	Coconino Sandstone	04/11/2017	220	< 6.0	< 6.0	32	3.8	5.4	2.4	--	910
M-61	Downgradient	Coconino Sandstone	04/24/2017	220	< 6.0	< 6.0	33	4.0	5.0	3.6	--	960
M-61	Downgradient	Coconino Sandstone	05/19/2017	220	< 6.0	< 6.0	32	3.8	4.9	3.7	--	910
M-61	Downgradient	Coconino Sandstone	05/25/2017	220	< 6.0	< 6.0	33	3.9	5.2	3.5	--	960
M-61	Downgradient	Coconino Sandstone	06/29/2017	220	< 6.0	< 6.0	32	3.8	4.6	3.5	--	910
M-61	Downgradient	Coconino Sandstone	07/29/2017	220	< 6.0	< 6.0	33	3.9	4.8	3.2	--	920
M-61	Downgradient	Coconino Sandstone	09/05/2017	220	< 6.0	< 6.0	32	3.9	4.9	3.4	--	910
M-61	Downgradient	Coconino Sandstone	12/07/2017	220	< 6.0	< 6.0	31	3.9	--	--	--	910
M-61	Downgradient	Coconino Sandstone	05/25/2018	230	< 6.0	< 6.0	30	3.6	--	--	--	860
M-61	Downgradient	Coconino Sandstone	10/26/2018	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	04/09/2019	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/22/2019	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	05/07/2020	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	05/07/2020	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/21/2020	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	01/13/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	04/16/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	10/24/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	--	--	--	--
M-61	Downgradient	Coconino Sandstone	11/19/2021	--	--	--	--	--	--	--	--	--

BTV exceedances are shown in grey shaded cells.
Duplicate sample dates under the same locations are either field duplicates or are instances of samples with multiple filed/lab sample IDs on the same date.
*Fluoride BTV for M-60 and M-61 is 1.5 mg/L
** sulfate re-analysis duplicate is below BTV

Abbreviations and Data Qualifiers:
< = less than
BTV = Background Threshold Value
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units

Groundwater Quality Data for the SEDI Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.23*	*600*	*3,700*	*0.8*	*7.5*	*630*	*7,800*	*0.05*	*0.004*	*0.08*	*0.001*	*0.002*	*0.004*	*0.004*	*0.002*	*0.8*	*0.01*	*0.2*	*0.002*	*0.011*	*0.01*	*0.0004*	*1.1*
			GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.05*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*4*	*0.015*	*0.2*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-62A	Background	LCR Alluvium	11/30/2015	**0.14**	**280**	**2,000**	< 0.40	**7.68**	**610**	**4,300**	< 0.0025	**0.0020**	**0.082**	< 0.0010	< 0.00010	**0.00078**	--	**0.00054**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.011**	**0.00071**	< 0.00010	< 0.7
M-62A	Background	LCR Alluvium	3/8/2016	**0.20**	**380**	**2,500**	< 0.80	**7.6**	**510**	**5,100**	< 0.015	< 0.0049	**0.16**	< 0.0010	< 0.00046	< 0.0087	--	**0.0022 j**	< 0.80	< 0.0044	< 0.20	< 0.00020	**0.0044 j**	< 0.0015	**0.00050 j**	**1.0**
M-62A	Background	LCR Alluvium	3/8/2016	**0.20**	**380**	**2,500**	< 0.80	**7.59**	**520**	**5,100**	< 0.015	< 0.0049	**0.15**	< 0.0010	< 0.00046	< 0.0087	--	**0.0020 j**	< 0.80	< 0.0044	< 0.20	< 0.00020	**0.0040 j**	< 0.0015	**0.00028 j**	**1.2**
M-62A	Background	LCR Alluvium	5/5/2016	**0.22**	**420**	**2,600**	< 0.40	--	**510**	**5,100**	< 0.00010	**0.0030**	**0.084**	< 0.0010	< 0.00010	**0.0014**	--	**0.0012**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0026**	< 0.00050	< 0.00010	**0.5**
M-62A	Background	LCR Alluvium	8/29/2016	**0.21**	**410**	**2,500**	< 0.80	**7.4**	**550**	**6,100**	< 0.00010	**0.0031**	**0.082**	< 0.0010	< 0.00010	< 0.00050	--	< 0.00050	< 0.80	< 0.00050	< 0.20	< 0.00020	**0.0023**	< 0.00050	< 0.00010	**0.9**
M-62A	Background	LCR Alluvium	9/21/2016	**0.21**	**400**	**2,600**	< 0.80	**7.6**	**520**	**4,300**	< 0.00050	**0.0028**	**0.075**	< 0.0010	< 0.00010	**0.00099**	--	**0.00046**	< 0.80	< 0.00010	< 0.20	< 0.00020	**0.0022**	**0.00078**	< 0.00010	**2.0**
M-62A	Background	LCR Alluvium	2/20/2017	**0.22**	**420**	**2,800**	< 0.40	**7.4**	**570**	**5,100**	< 0.0010	**0.0029**	**0.064**	< 0.0010	< 0.00010	**0.0020**	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0019**	< 0.00050	< 0.00010	**1.4**
M-62A	Background	LCR Alluvium	4/13/2017	**0.21**	**460**	**3,000**	< 0.40	**7.8**	**540**	**5,600**	< 0.0010	**0.0021**	**0.074**	< 0.0010	< 0.00010	**0.0015**	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0023**	< 0.00050	< 0.00010	**1.2**
M-62A	Background	LCR Alluvium	4/25/2017	**0.22**	**450**	**2,800**	< 0.80	**7.4**	**550**	**5,800**	< 0.0010	**0.0017**	**0.079**	< 0.0010	< 0.00010	**0.0017**	--	< 0.00050	< 0.80	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**0.9**
M-62A	Background	LCR Alluvium	4/25/2017	**0.22**	**450**	**2,800**	< 0.80	**7.5**	**540**	**5,600**	< 0.0010	**0.0018**	**0.080**	< 0.0010	< 0.00010	**0.0010**	--	< 0.00050	< 0.80	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**2.6**
M-62A	Background	LCR Alluvium	5/18/2017	**0.21**	**490**	**3,000**	< 0.40	**7.6**	**550**	**5,500**	< 0.0010	**0.0016**	**0.072**	< 0.0010	< 0.00010	**0.00063**	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0020**	< 0.00050	< 0.00010	**1.2**
M-62A	Background	LCR Alluvium	5/25/2017	**0.22**	**500**	**3,100**	< 0.40	**7.5**	**550**	**6,100**	< 0.0010	**0.0019**	**0.077**	< 0.0010	< 0.00010	**0.00096**	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**1.5**
M-62A	Background	LCR Alluvium	7/1/2017	**0.23**	**450**	**3,100**	< 0.40	**7.4**	**580**	**6,400**	< 0.0010	**0.0026**	**0.076**	< 0.0010	< 0.00010	**0.0011**	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	< 0.7
M-62A	Background	LCR Alluvium	7/26/2017	**0.23**	**480**	**3,000**	< 0.40	**7.5**	**580**	**6,800**	< 0.0020	**0.0024**	**0.075**	< 0.0010	< 0.00020	< 0.0010	--	< 0.0010	< 0.40	< 0.0010	< 0.20	< 0.00020	**0.0021**	< 0.0010	< 0.00020	**1.3**
M-62A	Background	LCR Alluvium	9/7/2017	**0.22**	**480**	**3,000**	< 0.40	**7.4**	**560**	**6,500**	< 0.0040	**0.0031**	**0.079**	< 0.0010	< 0.00040	< 0.0040	--	< 0.0020	< 0.40	< 0.0020	< 0.20	< 0.00020	**0.003**	< 0.0020	< 0.00040	**0.9**
M-62A	Background	LCR Alluvium	12/8/2017	**0.22**	**460**	**3,000**	< 0.40	**7.4**	**550**	**5,400**	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	5/21/2018	**0.22**	**450**	**3,000**	< 0.40	**7.4**	**560**	**5,500**	< 0.0020	**0.0029**	**0.072**	< 0.0010	< 0.00020	< 0.0020	--	< 0.0010	< 0.40	< 0.0010	< 0.20	< 0.00020	**0.0024**	< 0.0010	< 0.00020	**0.7**
M-62A	Background	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	**0.0029**	**0.074**	--	--	< 0.0010	--	< 0.00050	--	--	--	--	**0.0023**	--	< 0.00010	**0.5**
M-62A	Background	LCR Alluvium	10/24/2018	**0.21**	**460**	**2,900**	< 0.40	**7.5**	**570**	**5,300**	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	2/15/2019	**0.23**	**490**	**2,900**	< 0.40	**7.3 J**	**560**	--	--	**0.0030**	**0.068**	--	--	< 0.0010	--	< 0.00050	< 0.40	--	--	--	**0.0024**	--	< 0.00010	< 0.7
M-62A	Background	LCR Alluvium	4/18/2019	--	--	--	**0.47**	--	--	--	< 0.0010	**0.0033**	**0.068**	< 0.0010	< 0.00010	< 0.0010	--	< 0.00050	**0.47**	< 0.00050	< 0.20	< 0.00020	**0.0026**	< 0.00050	< 0.00010	< 0.7
M-62A	Background	LCR Alluvium	4/18/2019	--	--	--	< 0.40	--	--	--	< 0.0010	**0.0031**	**0.068**	< 0.0010	< 0.00010	< 0.0010	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0025**	< 0.00050	< 0.00010	< 0.7
M-62A	Background	LCR Alluvium	8/9/2019	**0.21**	**450**	**2,900**	< 0.4	**7.3 J**	**590**	**5,300**	--	**0.0031**	**0.067**	--	--	**0.0037**	--	< 0.0005	< 0.4	--	< 0.2	--	**0.0028**	--	< 0.0001	**0.8**
M-62A	Background	LCR Alluvium	8/9/2019	**0.55**	**450**	**1,900**	< 0.4	**7.0 J**	**1,300**	**5,000**	--	**0.0021**	**0.040**	--	--	**0.043**	--	**0.0039**	< 0.4	--	< 0.2	--	**0.0071**	--	< 0.0001	< 0.7
M-62A	Background	LCR Alluvium	11/25/2019	**0.22**	**450**	**2,800**	< 0.4	**7.3 J**	**590**	**5,900**	--	**0.0048**	**0.15 J**	--	--	**0.0044**	--	**0.0012**	< 0.4	--	--	--	**0.0091**	--	**0.00016**	--
M-62A	Background	LCR Alluvium	4/16/2020	< 0.25	**430**	**3,000**	< 0.8	**7.4 J**	**650**	**5,400**	< 0.005	**0.0043**	**0.078**	< 0.001	< 0.0005	**0.0053**	--	< 0.0025	< 0.8	< 0.0025	< 1	< 0.0002	**0.0040**	< 0.0025	< 0.0005	--
M-62A	Background	LCR Alluvium	10/20/2020	**0.20**	**440**	**2,900**	< 0.8	**7.4 J**	**610**	**5,400**	< 0.002	**0.0048**	**0.12**	< 0.001	< 0.0002	**0.0059**	--	**0.0011**	< 0.8	**0.0020**	**0.090**	< 0.0002	**0.015**	< 0.001	< 0.0002	< 0.8
M-62A	Background	LCR Alluvium	4/14/2021	**0.21**	**460**	**2,700**	**0.29 J**	**7.6 J**	**650**	**5,800**	< 0.002 U	**0.0052**	**0.063**	< 0.001	< 0.0002	**0.0012 J**	--	< 0.001 U	**0.29 J**	< 0.001	**0.092**	< 0.0002	**0.0041**	**0.0016**	< 0.0002	<0.8
M-62A	Background	LCR Alluvium	10/21/2021	**0.22**	**390**	**2,800**	**0.35 J**	**7.5 J**	**770**	**4,900 J**	**0.00018 J**	**0.0054**	**0.13**	**0.00016 J**	**0.00013**	**0.0031**	--	**0.0011**	**0.35 J**	**0.0017**	**0.087**	<0.00020	**0.0053**	**0.00099**	**0.000048 J**	<0.6

Groundwater Quality Data for the SEDI Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.23*	*600*	*3,700*	*0.8*	*7.5*	*630*	*7,800*	*0.05*	*0.004*	*0.08*	*0.001*	*0.002*	*0.004*	*0.004*	*0.002*	*0.8*	*0.01*	*0.2*	*0.002*	*0.011*	*0.01*	*0.0004*	*1.1*
			GWPS	--	--	--	--	--	--	--	*0.05*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*4*	*0.015*	*0.2*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-56A	Downgradient	LCR Alluvium	11/30/2015	0.18	260	1,900	< 0.40	7.58	590	4,000	< 0.0025	0.0019	0.081	< 0.0010	< 0.00010	0.00051	--	0.0012	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0096	0.00033	< 0.00010	< 0.9
M-56A	Downgradient	LCR Alluvium	3/8/2016	0.25	200	1,700	0.43	7.68	570	3,600	< 0.015	< 0.0049	0.084	< 0.0010	< 0.00046	< 0.0087	--	0.0020 j	0.43	< 0.0044	< 0.20	< 0.00020	0.029	< 0.0015	< 0.00026	< 0.4
M-56A	Downgradient	LCR Alluvium	5/10/2016	0.24	200	1,700	0.42	--	560	3,700	< 0.00010	0.00093	0.075	< 0.0010	< 0.00010	< 0.00050	--	0.0013	0.42	< 0.00050	< 0.20	< 0.00020	0.023	< 0.00050	< 0.00010	0.6
M-56A	Downgradient	LCR Alluvium	8/29/2016	0.26	220	1,800	0.46	7.5	570	3,900	0.00013	0.00082	0.082	< 0.0010	< 0.00010	< 0.00050	--	0.0013	0.46	< 0.00050	< 0.20	< 0.00020	0.021	< 0.00050	< 0.00010	1.6
M-56A	Downgradient	LCR Alluvium	9/21/2016	0.26	220	1,700	0.40	7.8	580	3,900	< 0.00050	0.00083	0.076	< 0.0010	< 0.00010	0.0012	--	0.0012	0.40	< 0.00010	< 0.20	< 0.00020	0.016	< 0.00060	< 0.00010	0.6
M-56A	Downgradient	LCR Alluvium	9/21/2016	0.27	230	1,700	0.40	7.9	600	4,500	< 0.00050	0.00089	0.076	< 0.0010	< 0.00010	0.0013	--	0.0011	0.40	0.00012	< 0.20	< 0.00020	0.015	< 0.00060	< 0.00010	1.6
M-56A	Downgradient	LCR Alluvium	2/20/2017	0.27	240	2,000	0.40	7.6	640	3,700	< 0.0010	0.00068	0.071	< 0.0010	< 0.00010	0.0093	--	0.00077	0.40	< 0.00050	< 0.20	< 0.00020	0.013	< 0.00050	< 0.00010	1.8
M-56A	Downgradient	LCR Alluvium	4/13/2017	0.26	260	2,000	< 0.40	7.7	630	3,900	< 0.0010	0.00076	0.070	< 0.0010	< 0.00010	0.0091	--	0.00065	< 0.40	< 0.00050	< 0.20	< 0.00020	0.011	< 0.00050	< 0.00010	1.2
M-56A	Downgradient	LCR Alluvium	4/25/2017	0.27	250	1,800	< 0.80	7.6	630	3,800	< 0.0010	0.00075	0.086	< 0.0010	< 0.00010	0.0067	--	0.00061	< 0.80	< 0.00050	< 0.20	< 0.00020	0.013	0.00056	< 0.00010	1.9
M-56A	Downgradient	LCR Alluvium	5/18/2017	0.26	260	2,000	< 0.40	7.7	680	4,100	< 0.0010	0.00060	0.062	< 0.0010	< 0.00010	0.0063	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0095	< 0.00050	< 0.00010	< 1.2
M-56A	Downgradient	LCR Alluvium	5/18/2017	0.26	270	2,000	< 0.40	7.7	670	4,000	< 0.0010	0.00058	0.063	< 0.0010	< 0.00010	0.0059	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0095	< 0.00050	< 0.00010	1.7
M-56A	Downgradient	LCR Alluvium	5/25/2017	0.25	250	1,900	< 0.40	7.6	660	3,900	< 0.0010	0.00070	0.073	< 0.0010	< 0.00010	0.020	--	0.00075	< 0.40	< 0.00050	< 0.20	< 0.00020	0.011	0.00057	< 0.00010	1.5
M-56A	Downgradient	LCR Alluvium	7/1/2017	0.27	260	2,000	0.41	7.5	690	4,000	< 0.0010	0.00065	0.068	< 0.0010	< 0.00010	0.0034	--	< 0.00050	0.41	< 0.00050	< 0.20	< 0.00020	0.0098	< 0.00050	< 0.00010	< 0.7
M-56A	Downgradient	LCR Alluvium	7/26/2017	0.27	270	1,900	< 0.40	7.5	690	4,300	< 0.0020	< 0.0010	0.066	< 0.0010	< 0.00020	0.0028	--	< 0.0010	< 0.40	< 0.0010	< 0.20	< 0.00020	0.0090	< 0.0010	< 0.00020	1.7
M-56A	Downgradient	LCR Alluvium	9/8/2017	0.27	270	2,000	0.47	7.4	680	4,100	< 0.0040	< 0.0020	0.070	< 0.0010	< 0.00040	< 0.0040	--	< 0.0020	0.47	< 0.0020	< 0.20	< 0.00020	0.0093	< 0.0020	< 0.00040	0.5
M-56A	Downgradient	LCR Alluvium	12/8/2017	0.24	260	2,000	0.49	7.6	630	4,000	--	--	--	--	--	--	--	--	0.49	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	5/21/2018	0.25	270	1,900	< 0.40	7.4	710	4,100	< 0.0010	0.00081	0.061	< 0.0010	< 0.00010	0.0046	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0079	< 0.00050	0.00012	1.4
M-56A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	0.0013	0.065	--	--	0.0042	--	< 0.00050	--	--	--	--	0.0057	--	< 0.00010	0.5
M-56A	Downgradient	LCR Alluvium	10/24/2018	0.24	280	2,000	< 0.40	7.5	630	4,100	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	2/15/2019	0.30	300	2,000	< 0.40	7.3 J	850	--	--	0.0082	0.067	--	--	0.0052	--	0.00073	< 0.40	--	--	--	0.0074	--	< 0.00010	0.9
M-56A	Downgradient	LCR Alluvium	2/15/2019	0.23	490	3,000	< 0.40	7.3 J	590	--	--	0.0032	0.071	--	--	< 0.0010	--	< 0.00050	< 0.40	--	--	--	0.0025	--	< 0.00010	--
M-56A	Downgradient	LCR Alluvium	4/18/2019	--	--	--	< 0.40	--	--	--	< 0.0010	0.0011	0.055	< 0.0010	< 0.00010	0.076	--	0.0013	< 0.40	< 0.00050	< 0.20	< 0.00020	0.014	0.00062	< 0.00010	< 0.7
M-56A	Downgradient	LCR Alluvium	8/9/2019	0.33	300	1,700	< 0.8	7.3 J	1,100	4,200	--	0.0085	0.078	--	--	0.023	--	0.0012	< 0.8	--	< 0.2	--	0.011	--	< 0.0001	0.6
M-56A	Downgradient	LCR Alluvium	11/25/2019	0.32	300	1,700	< 0.4	7.3 J	880	4,500	--	0.0088	0.063	--	--	0.0086	--	0.00064	< 0.4	--	--	--	0.0087	--	< 0.0001	--
M-56A	Downgradient	LCR Alluvium	4/16/2020	0.38	300	1,800	< 0.8	7.5 J	1,000	4,600	< 0.005	< 0.0025	0.052	< 0.001	< 0.0005	0.034	--	< 0.0025	< 0.8	< 0.0025	< 1	< 0.0002	0.012	< 0.0025	< 0.0005	--
M-56A	Downgradient	LCR Alluvium	4/16/2020	0.37	290	1,800	< 0.8	7.4 J	1,000	4,500	< 0.005	< 0.0025	0.052	< 0.001	< 0.0005	0.028	--	< 0.0025	< 0.8	< 0.0025	< 1	< 0.0002	0.012	< 0.0025	< 0.0005	--
M-56A	Downgradient	LCR Alluvium	10/21/2020	0.37	300	1,900	< 0.8	7.5 J	940	4,300	< 0.002	0.0044 J	0.050	< 0.001	< 0.0002	0.0041	--	< 0.001	< 0.8	< 0.001	0.097	< 0.0002	0.0080	< 0.001	< 0.0002	< 0.8
M-56A	Downgradient	LCR Alluvium	10/21/2020	0.31	300	1,800	< 0.8	7.6 J	910	4,400	< 0.002	0.0021 J	0.049	< 0.001	< 0.0002	0.0026	--	< 0.001	< 0.8	< 0.001	0.097	< 0.0002	0.0076	< 0.001	< 0.0002	0.4
M-56A	Downgradient	LCR Alluvium	4/14/2021	0.33	310	1,800	0.39 J	7.5 J	950	4,200 J	< 0.002 U	0.0029	0.050	< 0.001	< 0.0002	0.014 J	--	0.00073 J	0.39 J	< 0.001	0.10	< 0.0002	0.0097	0.0016	< 0.0002	<0.8
M-56A	Downgradient	LCR Alluvium	4/14/2021	0.33	310	1,800	0.40 J	7.7 J	950	6,900 J	< 0.002 U	0.0036	0.050	< 0.001	< 0.0002	0.0097 J	--	0.00072 J	0.40 J	< 0.001	0.10	< 0.0002	0.0091	0.0022	< 0.0002	<0.8
M-56A	Downgradient	LCR Alluvium	10/21/2021	0.35	310	2,000	0.41 J	7.5 J	1,000	4,700 J	0.00022 J	0.0031	0.050	<0.0010	<0.00010	0.0060	--	0.00076	0.41 J	<0.00050	0.11	<0.00020	0.0083	0.00081	0.000098 J	0.7

Groundwater Quality Data for the SEDI Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.23*	*600*	*3,700*	*0.8*	*7.5*	*630*	*7,800*	*0.05*	*0.004*	*0.08*	*0.001*	*0.002*	*0.004*	*0.004*	*0.002*	*0.8*	*0.01*	*0.2*	*0.002*	*0.011*	*0.01*	*0.0004*	*1.1*
			GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.05*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*4*	*0.015*	*0.2*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-57A	Downgradient	LCR Alluvium	11/30/2015	**0.42**	**280**	**1,500**	< 0.40	**7.39**	**1,000**	**3,900**	< 0.0025	**0.0048**	**0.072**	< 0.0010	< 0.00010	**0.00074**	--	**0.0077**	< 0.40	**0.00086**	< 0.20	< 0.00020	**0.008**	**0.00029**	< 0.00010	< 0.9
M-57A	Downgradient	LCR Alluvium	11/30/2015	**0.42**	**280**	**1,500**	< 0.40	**7.35**	**1,000**	**3,800**	< 0.0025	**0.0047**	**0.078**	< 0.0010	< 0.00010	**0.00077**	--	**0.0079**	< 0.40	**0.00095**	< 0.20	< 0.00020	**0.0079**	**0.00035**	< 0.00010	**1.0**
M-57A	Downgradient	LCR Alluvium	3/8/2016	**0.42**	**290**	**1,600**	< 0.40	**7.56**	**1,000**	**4,200**	< 0.015	**0.0064 j**	**0.063**	< 0.0010	< 0.00046	< 0.0087	--	**0.0082 j**	< 0.40	< 0.0044	< 0.20	< 0.00020	**0.0040 j**	< 0.0015	< 0.00026	< 0.4
M-57A	Downgradient	LCR Alluvium	5/11/2016	**0.46**	**320**	**1,600**	< 0.40	--	**1,000**	**4,100**	< 0.00010	**0.0027**	**0.047**	< 0.0010	< 0.00010	< 0.00050	--	**0.0065**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0011**	< 0.00050	< 0.00010	< 0.6
M-57A	Downgradient	LCR Alluvium	8/25/2016	**0.49**	**340**	**1,600**	< 0.40	**7.2**	**1,100**	**4,400**	**0.00012**	**0.0042**	**0.055**	< 0.0010	< 0.00010	**0.00066**	--	**0.0078**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.022**	< 0.00050	< 0.00010	< 0.6
M-57A	Downgradient	LCR Alluvium	9/21/2016	**0.51**	**340**	**1,600**	< 0.40	**7.6**	**1,100**	**3,900**	< 0.00050	**0.0019**	**0.051**	< 0.0010	< 0.00010	**0.016**	--	**0.0067**	< 0.40	**0.00021**	< 0.20	< 0.00020	**0.0029**	< 0.00060	< 0.00010	< 0.7
M-57A	Downgradient	LCR Alluvium	9/21/2016	**0.52**	**340**	**1,600**	< 0.40	**7.5**	**1,100**	--	< 0.0025	**0.0019**	**0.051**	< 0.0010	< 0.00050	**0.030**	--	**0.0071**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0028**	< 0.0030	< 0.00050	< 0.7
M-57A	Downgradient	LCR Alluvium	2/20/2017	**0.60**	**380**	**1,700**	< 0.40	**7.1**	**1,400**	**4,400**	< 0.0010	**0.0051**	**0.041**	< 0.0010	< 0.00010	**0.042**	--	**0.0086**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0048**	< 0.00050	< 0.00010	**1.1**
M-57A	Downgradient	LCR Alluvium	4/12/2017	**0.60**	**410**	**1,800**	< 0.40	**7.4**	**1,400**	**4,800**	< 0.0010	**0.0042**	**0.042**	< 0.0010	< 0.00010	**0.031**	--	**0.0087**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0047**	< 0.00050	< 0.00010	< 0.6
M-57A	Downgradient	LCR Alluvium	4/25/2017	**0.60**	**380**	**1,600**	< 0.40	**7.1**	**1,300**	**4,600**	< 0.0010	**0.0039**	**0.042**	< 0.0010	< 0.00010	**0.019**	--	**0.0077**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0042**	< 0.00050	< 0.00010	< 0.6
M-57A	Downgradient	LCR Alluvium	5/18/2017	**0.62**	**410**	**1,800**	< 0.40	**7.4**	**1,400**	**4,800**	< 0.0010	**0.0098**	**0.038**	< 0.0010	< 0.00010	**0.024**	--	**0.0076**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0041**	< 0.00050	< 0.00010	**1.5**
M-57A	Downgradient	LCR Alluvium	5/25/2017	**0.59**	**400**	**1,700**	< 0.40	**7.3**	**1,400**	**4,900**	< 0.0010	**0.0066**	**0.044**	< 0.0010	< 0.00010	**0.035**	--	**0.0083**	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.0063**	< 0.00050	< 0.00010	**0.5**
M-57A	Downgradient	LCR Alluvium	7/1/2017	**0.57**	**380**	**1,800**	**0.42**	**7.1**	**1,400**	**4,500**	< 0.0010	**0.0038**	**0.043**	< 0.0010	< 0.00010	**0.012**	--	**0.0075**	**0.42**	< 0.00050	< 0.20	< 0.00020	**0.0037**	< 0.00050	< 0.00010	< 0.7
M-57A	Downgradient	LCR Alluvium	7/26/2017	**0.64**	**420**	**1,800**	< 0.40	**7.1**	**1,600**	**5,000**	< 0.0020	**0.0027**	**0.042**	< 0.0010	< 0.00020	**0.028**	--	**0.0088**	< 0.40	< 0.0010	< 0.20	< 0.00020	**0.0058**	< 0.0010	< 0.00020	< 0.7
M-57A	Downgradient	LCR Alluvium	9/8/2017	**0.63**	**420**	**1,800**	< 0.40	**7.1**	**1,400**	**4,800**	< 0.0040	**0.0027**	**0.045**	< 0.0010	< 0.00040	**0.015**	--	**0.0082**	< 0.40	< 0.0020	< 0.20	< 0.00020	**0.0046**	< 0.0020	< 0.00040	**0.6**
M-57A	Downgradient	LCR Alluvium	12/8/2017	**0.63**	**420**	**1,900**	< 0.40	**7.2**	**1,300**	**4,800**	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	5/21/2018	**0.59**	**410**	**1,900**	< 0.40	**7.0**	**1,200**	**4,800**	< 0.0020	**0.0022**	**0.043**	< 0.0010	< 0.00020	**0.0023**	--	**0.0058**	< 0.40	< 0.0010	< 0.20	< 0.00020	**0.0026**	< 0.0010	< 0.00020	< 0.7
M-57A	Downgradient	LCR Alluvium	5/21/2018	**0.60**	**430**	**1,900**	< 0.80	**7.1**	**1,200**	**4,900**	< 0.0020	**0.0028**	**0.043**	< 0.0010	< 0.00020	**0.0031**	--	**0.0058**	< 0.80	< 0.0010	< 0.20	< 0.00020	**0.0026**	< 0.0010	< 0.00020	< 0.6
M-57A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	**0.0021**	**0.045**	--	--	**0.0067**	--	**0.0057**	--	--	--	--	**0.003**	--	< 0.00010	**0.7**
M-57A	Downgradient	LCR Alluvium	10/24/2018	**0.60**	**470**	**2,100**	< 0.40	**7.1**	**1,300**	**5,000**	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	2/15/2019	**0.63**	**490**	**2,100**	< 0.40	**7.1 J**	**1,300**	--	--	**0.0017**	**0.041**	--	--	**0.0074**	--	**0.0049**	< 0.40	--	--	--	**0.0029**	--	< 0.00010	< 0.7
M-57A	Downgradient	LCR Alluvium	4/17/2019	--	--	--	**0.53**	--	--	--	< 0.0010	**0.0026**	**0.041**	< 0.0010	< 0.00010	**0.045**	--	**0.0050**	**0.53**	< 0.00050	< 0.20	< 0.00020	**0.0078**	**0.00069**	< 0.00010	< 0.7
M-57A	Downgradient	LCR Alluvium	8/9/2019	**0.56**	**470**	**1,900**	< 0.8	**7.0 J**	**1,300**	**4,700**	--	**0.0019**	**0.039**	--	--	**0.038**	--	**0.0040**	< 0.8	--	< 0.2	--	**0.0068**	--	< 0.0001	< 0.7
M-57A	Downgradient	LCR Alluvium	11/25/2019	**0.54**	**440**	**1,900**	< 0.4	**7.0 J**	**1,400**	**4,900**	--	**0.021**	**0.047**	--	--	**0.0038**	--	**0.0044**	< 0.4	--	--	--	**0.012**	--	< 0.0001	--
M-57A	Downgradient	LCR Alluvium	11/25/2019	**0.58**	**480**	**1,800**	< 0.4	**7.0 J**	**1,400**	**4,800**	--	**0.021**	**0.047**	--	--	**0.0035**	--	**0.0046**	< 0.4	--	--	--	**0.012**	--	< 0.0001	--
M-57A	Downgradient	LCR Alluvium	4/16/2020	**0.48**	**360**	**1,800**	< 0.8	**7.2 J**	**1,100**	**4,600**	< 0.005	**0.0037**	**0.042**	< 0.001	< 0.0005	< 0.005	--	**0.0028**	< 0.8	< 0.0025	< 1	< 0.0002	< 0.0025	< 0.0025	< 0.0005	--
M-57A	Downgradient	LCR Alluvium	10/21/2020	**0.41**	**380**	**1,800**	< 0.8	**7.3 J**	**1,100**	**4,500**	< 0.002	**0.0061**	**0.046**	< 0.001	< 0.0002	**0.16**	--	**0.0028**	< 0.8	< 0.001	**0.092**	< 0.0002	**0.018**	< 0.001	< 0.0002	< 0.8
M-57A	Downgradient	LCR Alluvium	1/13/2021	--	--	--	--	--	--	--	--	--	--	--	--	**0.013**	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	4/14/2021	**0.38**	**390**	**1,800**	**0.35 J**	**7.4 J**	**1,000**	**4,200**	< 0.002 U	**0.0037**	**0.043**	< 0.001	< 0.0002	**0.017**	--	**0.0026**	**0.35 J**	< 0.001	**0.096**	< 0.0002	**0.0044**	**0.0014**	< 0.0002	<0.8
M-57A	Downgradient	LCR Alluvium	10/21/2021	**0.43**	**430**	**2,000**	**0.38 J**	**7.2 J**	**1,200**	**4,900 J**	**0.00011 J**	**0.0033**	**0.055**	<0.0010	**0.00012**	**0.0560**	--	**0.0029**	**0.38 J**	<0.00050	**0.10**	<0.00020	**0.0069**	**0.0010**	**0.00006 J**	<0.6

Groundwater Quality Data for the SEDI Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	Boron	Calcium	Chloride	Fluoride	pH (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.23*	*600*	*3,700*	*0.8*	*7.5*	*630*	*7,800*	*0.05*	*0.004*	*0.08*	*0.001*	*0.002*	*0.004*	*0.004*	*0.002*	*0.8*	*0.01*	*0.2*	*0.002*	*0.011*	*0.01*	*0.0004*	*1.1*
			GWPS	--	--	--	--	--	--	--	*0.05*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*4*	*0.015*	*0.2*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-58A	Downgradient	LCR Alluvium	11/30/2015	0.19	250	1,900	0.43	7.6	570	3,700	< 0.0025	0.0032	0.10	< 0.0010	< 0.00010	< 0.00050	--	0.0011	0.43	0.00056	< 0.20	< 0.00020	0.0047	0.00024	< 0.00010	< 0.9
M-58A	Downgradient	LCR Alluvium	3/8/2016	0.19	250	1,800	< 0.40	7.74	520	3,700	< 0.015	< 0.0049	0.081	< 0.0010	< 0.00046	< 0.0087	--	< 0.0013	< 0.40	< 0.0044	< 0.20	< 0.00020	< 0.0040	< 0.0015	< 0.00026	< 0.6
M-58A	Downgradient	LCR Alluvium	5/11/2016	0.21	250	1,800	< 0.40	--	540	3,700	< 0.00010	0.0025	0.055	< 0.0010	< 0.00010	< 0.00050	--	0.00051	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0018	< 0.00050	< 0.00010	0.9
M-58A	Downgradient	LCR Alluvium	8/25/2016	0.20	270	1,900	< 0.40	7.5	490	4,200	< 0.00010	0.0045	0.097	< 0.0010	< 0.00010	0.00097	--	0.00079	< 0.40	0.00059	< 0.20	< 0.00020	0.020	< 0.00050	< 0.00010	2.6
M-58A	Downgradient	LCR Alluvium	9/21/2016	0.21	280	1,800	< 0.40	7.8	510	4,500	< 0.00050	0.0039	0.076	< 0.0010	< 0.00010	0.0018	--	0.00057	< 0.40	< 0.00010	< 0.20	< 0.00020	0.0025	< 0.00060	< 0.00010	1.2
M-58A	Downgradient	LCR Alluvium	2/20/2017	0.23	260	2,000	< 0.40	7.5	580	3,700	< 0.0010	0.0027	0.064	< 0.0010	< 0.00010	0.0033	--	0.00097	< 0.40	0.00078	< 0.20	< 0.00020	0.0022	< 0.00050	< 0.00010	0.8
M-58A	Downgradient	LCR Alluvium	4/12/2017	0.21	280	1,900	< 0.40	8.0	570	3,900	< 0.0010	0.0037	0.048	< 0.0010	< 0.00010	0.00091	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0017	< 0.00050	< 0.00010	1.9
M-58A	Downgradient	LCR Alluvium	4/25/2017	0.21	270	1,700	< 0.80	7.5	550	3,600	< 0.0010	0.0040	0.049	< 0.0010	< 0.00010	0.0010	--	< 0.00050	< 0.80	< 0.00050	< 0.20	< 0.00020	0.0015	< 0.00050	< 0.00010	0.9
M-58A	Downgradient	LCR Alluvium	5/18/2017	0.21	260	1,900	< 0.40	7.7	600	3,700	< 0.0010	0.0030	0.043	< 0.0010	< 0.00010	0.00052	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0014	< 0.00050	< 0.00010	< 0.6
M-58A	Downgradient	LCR Alluvium	5/25/2017	0.21	270	1,800	< 0.40	7.7	550	3,700	< 0.0010	0.0051	0.055	< 0.0010	< 0.00010	0.00055	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0016	< 0.00050	< 0.00010	2.2
M-58A	Downgradient	LCR Alluvium	5/25/2017	0.21	280	1,800	< 0.40	7.7	540	3,700	< 0.0010	0.0050	0.052	< 0.0010	< 0.00010	0.00054	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0016	< 0.00050	< 0.00010	< 0.6
M-58A	Downgradient	LCR Alluvium	7/1/2017	0.28	270	2,000	< 0.40	7.5	540	4,100	< 0.0010	0.0047	0.063	< 0.0010	< 0.00010	< 0.00050	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0018	< 0.00050	< 0.00010	< 0.7
M-58A	Downgradient	LCR Alluvium	7/26/2017	0.23	300	1,900	< 0.40	7.6	560	4,100	< 0.0020	0.0057	0.11	< 0.0010	< 0.00020	0.0030	--	0.0010	< 0.40	0.0011	< 0.20	< 0.00020	0.0021	< 0.0010	< 0.00020	< 0.7
M-58A	Downgradient	LCR Alluvium	9/8/2017	0.22	300	2,000	< 0.40	7.5	520	4,300	< 0.0040	0.0048	0.080	< 0.0010	< 0.00040	< 0.0040	--	< 0.0020	< 0.40	< 0.0020	< 0.20	< 0.00020	0.0022	< 0.0020	< 0.00040	< 0.7
M-58A	Downgradient	LCR Alluvium	12/8/2017	0.21	290	2,100	< 0.40	7.6	530	4,000	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	12/8/2017	0.20	280	2,100	< 0.40	7.6	530	3,900	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	5/21/2018	0.21	290	2,000	< 0.40	7.4	520	3,900	< 0.0020	0.0042	0.071	< 0.0010	< 0.00020	< 0.0020	--	< 0.0010	< 0.40	< 0.0010	< 0.20	< 0.00020	0.0018	< 0.0010	< 0.00020	0.7
M-58A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	0.0037	0.075	--	--	< 0.0010	--	< 0.00050	--	--	--	--	0.0017	--	< 0.00010	< 0.6
M-58A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	0.0037	0.076	--	--	< 0.0010	--	< 0.00050	--	--	--	--	0.0017	--	< 0.00010	< 0.6
M-58A	Downgradient	LCR Alluvium	10/24/2018	0.21	290	2,000	< 0.40	7.5	530	3,900	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	2/15/2019	0.23	310	2,100	< 0.40	7.5 J	540	--	--	0.0043	0.063	--	--	< 0.0010	--	< 0.00050	< 0.40	--	--	--	0.0018	--	< 0.00010	< 0.7
M-58A	Downgradient	LCR Alluvium	4/17/2019	--	--	--	< 0.40	--	--	--	< 0.0010	0.0039	0.059	< 0.0010	< 0.00010	< 0.0010	--	< 0.00050	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0018	< 0.00050	< 0.00010	< 0.7
M-58A	Downgradient	LCR Alluvium	8/9/2019	0.22	300	2,100	< 0.8	7.4 J	530	4,200	--	0.0038	0.066	--	--	< 0.001	--	< 0.0005	< 0.8	--	< 0.2	--	0.0018	--	< 0.0001	< 0.7
M-58A	Downgradient	LCR Alluvium	11/25/2019	0.22	300	2,000	< 0.4	7.4 J	530	4,000	--	0.0046	0.079	--	--	< 0.001	--	< 0.0005	< 0.4	--	--	--	0.0018	--	< 0.0001	--
M-58A	Downgradient	LCR Alluvium	4/16/2020	< 0.25	280	2,100	< 0.8	7.5 J	590	4,300	< 0.005	0.0042	0.069	< 0.001	< 0.0005	< 0.005	--	< 0.0025	< 0.8	< 0.0025	< 1	< 0.0002	< 0.0025	< 0.0025	< 0.0005	--
M-58A	Downgradient	LCR Alluvium	10/21/2020	0.21	300	2,100	< 0.8	7.6 J	540	4,300	< 0.002	0.0066	0.073	< 0.001	< 0.0002	< 0.002	--	< 0.001	< 0.8	< 0.001	0.070	< 0.0002	0.0017	< 0.001	< 0.0002	0.5
M-58A	Downgradient	LCR Alluvium	4/14/2021	0.21	320	2,100	0.32 J	7.7 J	580	4,600	< 0.002 U	0.0061	0.070	< 0.001	< 0.0002	< 0.002	--	< 0.001	0.32 J	< 0.001	0.071	< 0.0002	0.0020	0.00099 J	< 0.0002	<0.8
M-58A	Downgradient	LCR Alluvium	10/21/2021	0.22	310	2,100	0.34 J	7.6 J	600	4,500 J	< 0.0010	0.0054	0.062	<0.0010	<0.00010	<0.0010	--	0.00024 J	0.34 J	<0.00050	0.069	<0.00020	0.0016	0.00054	0.00002 J	0.8

Groundwater Quality Data for the SEDI Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents															
			Constituent:	**Boron**	**Calcium**	**Chloride**	**Fluoride**	**pH (Laboratory Measurement)**	**Sulfate**	**Total Dissolved Solids**	**Antimony**	**Arsenic**	**Barium**	**Beryllium**	**Cadmium**	**Chromium**	**Chromium**	**Cobalt**	**Fluoride**	**Lead**	**Lithium**	**Mercury**	**Molybdenum**	**Selenium**	**Thallium**	**Total Radium**
			Filtered:	N	N	N	N	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BTV	*0.23*	*600*	*3,700*	*0.8*	*7.5*	*630*	*7,800*	*0.05*	*0.004*	*0.08*	*0.001*	*0.002*	*0.004*	*0.004*	*0.002*	*0.8*	*0.01*	*0.2*	*0.002*	*0.011*	*0.01*	*0.0004*	*1.1*
			GWPS	--	--	--	--	--	--	--	*0.05*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*4*	*0.015*	*0.2*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.010	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	**0.146**	**225**	--	--	**7.42**	--	**2,890**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	**1,100**	**0.80**	--	**270**	--	--	--	--	--	--	--	--	--	**0.80**	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	**1,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.010	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	**0.139**	**215**	--	**0.43**	**7.32**	--	**2,380**	--	--	--	--	--	--	--	--	**0.43**	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	--	--	**1,100**	--	--	**250**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/10/2014	**0.128**	**229**	**1,100**	**0.48**	**7.79**	**240**	**2,960**	--	--	--	--	--	--	< 0.01	--	**0.48**	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/30/2014	--	--	--	--	--	**262**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/16/2015	**0.157**	**214**	**1,110**	**0.46**	**7.59**	**211**	**2,490**	--	--	--	--	--	--	< 0.01	--	**0.46**	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/4/2016	**0.18**	--	**1,400**	**0.68**	**7.5**	**300**	**3,100**	--	--	--	--	--	--	< 0.010	--	**0.68**	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	11/1/2016	--	--	**1,300**	--	**7.4**	--	**3,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/6/2017	**0.16**	--	**1,300**	< 0.40	**7.6**	**280**	**2,600**	--	--	--	--	--	< 0.010	< 0.010	--	< 0.40	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	9/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.010	--	--	--	--	--	--	--	--	--
CR-1R	Supplementary	LCR Alluvium	8/2/2021	**0.15**	**120**	**640**	**0.41 J**	**7.9 J**	**250**	**1,700**	< 0.001 U	< 0.00075 U	**0.094**	**0.00096 J**	**0.000078 J**	**0.00048 J**	< 0.0005	--	**0.41 J**	< 0.0005	**0.036**	< 0.0002	**0.0042**	< 0.0005	< 0.0001 U	< 0.6
CR-1R	Supplementary	LCR Alluvium	8/2/2021	**0.15**	**120**	**620**	**0.40 J**	**7.9 J**	**260**	**1,800**	< 0.001 U	< 0.00073 U	**0.090**	**0.00026 J**	< 0.0001	< 0.001	< 0.0005	--	**0.40 J**	< 0.0005	**0.035**	< 0.0002	**0.0038**	< 0.0005	< 0.0001 U	< 0.6
CR-1R	Supplementary	LCR Alluvium	10/21/2021	**0.16**	**110**	**660**	**0.36 J**	**7.9 J**	**260**	**1,500 J**	**0.000075 J**	**0.00066**	**0.079**	<0.0010	**0.000061 J**	<0.0010	--	**0.000076 J**	**0.36 J**	<0.00050	**0.033**	<0.00020	**0.0073**	**0.00025 J**	**0.00038 J**	**0.5**
CR-1R	Supplementary	LCR Alluvium	10/21/2021	**0.15**	**110**	**640**	**0.40 J**	**7.9 J**	**260**	**1,600 J**	< 0.0010	**0.00070**	**0.082 J**	<0.0011	<0.00010	<0.0010	--	<0.00050	**0.40 J**	<0.00050	**0.033**	<0.00020	**0.0077**	**0.00078 J**	< 0.00010 UJ	<0.6

Groundwater Quality Data for the SEDI Monitoring Wells

				Additional Analyses																	
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Iron	Magnesium	Manganese	Methane	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	11/30/2015	140	< 6.0	< 6.0	--	130	--	--	--	--	--	--	--	9.5	< 0.4	< 0.7	10	1,200	--
M-62A	Background	LCR Alluvium	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	0.4	0.6	--	--	--
M-62A	Background	LCR Alluvium	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	0.7	--	--	--
M-62A	Background	LCR Alluvium	5/5/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	< 0.8	--	--	--
M-62A	Background	LCR Alluvium	8/29/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	0.9	--	--	--
M-62A	Background	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	1.5	--	--	--
M-62A	Background	LCR Alluvium	2/20/2017	190	< 6.0	< 6.0	--	150	--	--	--	--	--	--	--	7.9	0.7	0.7	--	1,200	--
M-62A	Background	LCR Alluvium	4/13/2017	190	< 6.0	< 6.0	--	150	--	--	--	--	--	--	--	7.7	< 0.5	1.2	--	1,200	--
M-62A	Background	LCR Alluvium	4/25/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.4	< 0.4	0.9	--	1,300	--
M-62A	Background	LCR Alluvium	4/25/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.5	1.0	1.6	--	1,300	--
M-62A	Background	LCR Alluvium	5/18/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.5	< 0.5	1.2	--	1,300	--
M-62A	Background	LCR Alluvium	5/25/2017	190	< 6.0	< 6.0	--	170	--	--	--	--	--	--	--	8.6	0.4	1.1	--	1,400	--
M-62A	Background	LCR Alluvium	7/1/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.1	< 0.5	< 0.7	--	1,300	--
M-62A	Background	LCR Alluvium	7/26/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.3	< 0.4	1.3	--	1,300	--
M-62A	Background	LCR Alluvium	9/7/2017	210	< 6.0	< 6.0	--	170	--	--	--	--	--	--	--	8.7	< 0.5	0.9	--	1,400	--
M-62A	Background	LCR Alluvium	12/8/2017	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	8.2	--	--	--	1,200	--
M-62A	Background	LCR Alluvium	5/21/2018	190	< 6.0	< 6.0	--	160	--	--	--	--	--	--	--	7.9	< 0.4	0.7	--	1,200	--
M-62A	Background	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	< 0.6	--	--	--
M-62A	Background	LCR Alluvium	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-62A	Background	LCR Alluvium	4/18/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-62A	Background	LCR Alluvium	4/18/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-62A	Background	LCR Alluvium	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	0.8	< 0.7	--	--	--
M-62A	Background	LCR Alluvium	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-62A	Background	LCR Alluvium	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-62A	Background	LCR Alluvium	10/20/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.8	--	--	--
M-62A	Background	LCR Alluvium	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--
M-62A	Background	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.6	--	--	--

Groundwater Quality Data for the SEDI Monitoring Wells

				Additional Analyses																	
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Iron	Magnesium	Manganese	Methane	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	11/30/2015	**160**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**10**	< 0.5	< 0.9	**16**	**1,100**	--
M-56A	Downgradient	LCR Alluvium	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.4	--	--	--
M-56A	Downgradient	LCR Alluvium	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	**0.6**	--	--	--
M-56A	Downgradient	LCR Alluvium	8/29/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.6**	--	--	--
M-56A	Downgradient	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.6**	< 0.7	--	--	--
M-56A	Downgradient	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.6**	--	--	--
M-56A	Downgradient	LCR Alluvium	2/20/2017	**180**	< 6.0	< 6.0	--	**71**	--	--	--	--	--	--	--	**7.1**	**0.7**	**1.1**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	4/13/2017	**190**	< 6.0	< 6.0	--	**74**	--	--	--	--	--	--	--	**7.3**	< 0.5	**1.2**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	4/25/2017	**190**	< 6.0	< 6.0	--	**76**	--	--	--	--	--	--	--	**7.7**	< 0.4	**1.9**	--	**1,200**	--
M-56A	Downgradient	LCR Alluvium	5/18/2017	**200**	< 6.0	< 6.0	--	**77**	--	--	--	--	--	--	--	**7.6**	< 0.8	< 1.2	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	5/18/2017	**190**	< 6.0	< 6.0	--	**78**	--	--	--	--	--	--	--	**7.6**	**0.6**	**1.1**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	5/25/2017	**200**	< 6.0	< 6.0	--	**74**	--	--	--	--	--	--	--	**7.2**	**0.4**	**1.1**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	7/1/2017	**200**	< 6.0	< 6.0	--	**79**	--	--	--	--	--	--	--	**7.6**	< 0.5	< 0.7	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	7/26/2017	**190**	< 6.0	< 6.0	--	**81**	--	--	--	--	--	--	--	**7.5**	**0.7**	**1.0**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	9/8/2017	**200**	< 6.0	< 6.0	--	**82**	--	--	--	--	--	--	--	**7.8**	**0.5**	< 0.6	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	12/8/2017	**190**	< 6.0	< 6.0	--	**79**	--	--	--	--	--	--	--	**7.3**	--	--	--	**1,000**	--
M-56A	Downgradient	LCR Alluvium	5/21/2018	**200**	< 6.0	< 6.0	--	**87**	--	--	--	--	--	--	--	**7.4**	< 0.4	**1.4**	--	**1,100**	--
M-56A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	< 0.6	--	--	--
M-56A	Downgradient	LCR Alluvium	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.9**	--	--	--
M-56A	Downgradient	LCR Alluvium	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	4/18/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-56A	Downgradient	LCR Alluvium	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.6**	< 0.7	--	--	--
M-56A	Downgradient	LCR Alluvium	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-56A	Downgradient	LCR Alluvium	10/21/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	
M-56A	Downgradient	LCR Alluvium	10/21/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.8	--	--	
M-56A	Downgradient	LCR Alluvium	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--
M-56A	Downgradient	LCR Alluvium	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--
M-56A	Downgradient	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	**0.7**	--	--	--

Groundwater Quality Data for the SEDI Monitoring Wells

				Additional Analyses																	
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Iron	Magnesium	Manganese	Methane	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	11/30/2015	230	< 6.0	< 6.0	--	96	--	--	--	--	--	--	--	7.5	< 0.5	< 0.9	19	1,100	--
M-57A	Downgradient	LCR Alluvium	11/30/2015	230	< 6.0	< 6.0	--	97	--	--	--	--	--	--	--	7.8	< 0.5	1.0	19	1,000	--
M-57A	Downgradient	LCR Alluvium	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.4	--	--	--
M-57A	Downgradient	LCR Alluvium	5/11/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.6	--	--	--
M-57A	Downgradient	LCR Alluvium	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-57A	Downgradient	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	2/20/2017	260	< 6.0	< 6.0	--	110	--	--	--	--	--	--	--	6.3	< 0.4	1.1	--	1,100	--
M-57A	Downgradient	LCR Alluvium	4/12/2017	260	< 6.0	< 6.0	--	110	--	--	--	--	--	--	--	6.0	< 0.5	< 0.6	--	1,000	--
M-57A	Downgradient	LCR Alluvium	4/25/2017	260	< 6.0	< 6.0	--	110	--	--	--	--	--	--	--	6.5	< 0.4	< 0.6	--	1,100	--
M-57A	Downgradient	LCR Alluvium	5/18/2017	270	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.3	0.8	0.7	--	1,100	--
M-57A	Downgradient	LCR Alluvium	5/25/2017	260	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.3	0.5	< 0.6	--	1,100	--
M-57A	Downgradient	LCR Alluvium	7/1/2017	270	< 6.0	< 6.0	--	110	--	--	--	--	--	--	--	6.2	< 0.5	< 0.7	--	1,100	--
M-57A	Downgradient	LCR Alluvium	7/26/2017	270	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.0	< 0.4	< 0.7	--	1,100	--
M-57A	Downgradient	LCR Alluvium	9/8/2017	270	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.4	0.6	< 0.6	--	1,100	--
M-57A	Downgradient	LCR Alluvium	12/8/2017	270	< 6.0	< 6.0	--	110	--	--	--	--	--	--	--	6.2	--	--	--	1,100	--
M-57A	Downgradient	LCR Alluvium	5/21/2018	270	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.2	< 0.4	< 0.7	--	1,100	--
M-57A	Downgradient	LCR Alluvium	5/21/2018	270	< 6.0	< 6.0	--	120	--	--	--	--	--	--	--	6.3	< 0.4	< 0.6	--	1,100	--
M-57A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-57A	Downgradient	LCR Alluvium	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	10/21/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	
M-57A	Downgradient	LCR Alluvium	1/13/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-57A	Downgradient	LCR Alluvium	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--
M-57A	Downgradient	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.6	--	--	--

Groundwater Quality Data for the SEDI Monitoring Wells

				Additional Analyses																	
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Iron	Magnesium	Manganese	Methane	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	11/30/2015	**190**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**9.7**	< 0.5	< 0.9	**15**	**1,000**	--
M-58A	Downgradient	LCR Alluvium	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.6	--	--	--
M-58A	Downgradient	LCR Alluvium	5/11/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	**0.9**	--	--	--
M-58A	Downgradient	LCR Alluvium	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	**1.4**	--	--	--
M-58A	Downgradient	LCR Alluvium	9/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.2**	--	--	--
M-58A	Downgradient	LCR Alluvium	2/20/2017	**210**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.5**	< 0.4	**0.8**	--	**1,000**	--
M-58A	Downgradient	LCR Alluvium	4/12/2017	**210**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.1**	**0.6**	**1.3**	--	**880**	--
M-58A	Downgradient	LCR Alluvium	4/25/2017	**210**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**7.4**	< 0.4	**0.9**	--	**930**	--
M-58A	Downgradient	LCR Alluvium	5/18/2017	**210**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**6.9**	< 0.5	< 0.6	--	**900**	--
M-58A	Downgradient	LCR Alluvium	5/25/2017	**200**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**7.4**	**0.6**	**1.6**	--	**920**	--
M-58A	Downgradient	LCR Alluvium	5/25/2017	**200**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**7.4**	< 0.4	< 0.6	--	**940**	--
M-58A	Downgradient	LCR Alluvium	7/1/2017	**190**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.5**	< 0.4	< 0.7	--	**900**	--
M-58A	Downgradient	LCR Alluvium	7/26/2017	**190**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**8.4**	< 0.4	< 0.7	--	**940**	--
M-58A	Downgradient	LCR Alluvium	9/8/2017	**190**	< 6.0	< 6.0	--	**120**	--	--	--	--	--	--	--	**7.9**	< 0.6	< 0.7	--	**960**	--
M-58A	Downgradient	LCR Alluvium	12/8/2017	**190**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.6**	--	--	--	**930**	--
M-58A	Downgradient	LCR Alluvium	12/8/2017	**190**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.3**	--	--	--	**920**	--
M-58A	Downgradient	LCR Alluvium	5/21/2018	**190**	< 6.0	< 6.0	--	**110**	--	--	--	--	--	--	--	**7.3**	< 0.4	**0.7**	--	**940**	--
M-58A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-58A	Downgradient	LCR Alluvium	8/28/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-58A	Downgradient	LCR Alluvium	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-58A	Downgradient	LCR Alluvium	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-58A	Downgradient	LCR Alluvium	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-58A	Downgradient	LCR Alluvium	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-58A	Downgradient	LCR Alluvium	10/21/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	< 0.8	--	--	--
M-58A	Downgradient	LCR Alluvium	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.8	--	--	--
M-58A	Downgradient	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	**0.8**	--	--	--

Groundwater Quality Data for the SEDI Monitoring Wells

				Additional Analyses																	
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Iron	Magnesium	Manganese	Methane	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	**190**	< 5.0	< 5.0	--	**88.9**	--	--	--	--	--	--	--	< 10	--	--	--	**547**	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	10/9/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	**170**	< 5.0	< 5.0	--	**78.3**	--	--	--	--	--	--	--	< 10	--	--	--	**510**	--
CR-1	Supplementary	LCR Alluvium	6/4/2013	--	--	--	--	--	--	--	**0.90**	--	< 0.8	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/10/2014	**180**	< 5.0	--	--	**88.1**	--	--	< 0.8	--	< 0.8	--	--	< 10	--	--	--	**496**	--
CR-1	Supplementary	LCR Alluvium	10/30/2014	--	--	--	**0.585**	--	**1.39**	**0.34 J**	--	< 0.10 U	--	--	--	--	--	--	--	--	< 1.0 U
CR-1	Supplementary	LCR Alluvium	6/16/2015	**176**	< 5.0	< 5.0	--	**85.5**	--	--	< 0.10	--	< 0.50	--	--	< 10	--	--	--	**520**	--
CR-1	Supplementary	LCR Alluvium	10/4/2016	--	--	--	--	--	--	--	< 0.10	--	< 0.10	< 0.10	< 0.50	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	11/1/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	6/6/2017	--	--	--	--	--	--	--	< 0.10	< 0.10	< 0.10	**0.66**	**0.66**	--	--	--	--	--	--
CR-1	Supplementary	LCR Alluvium	9/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
CR-1R	Supplementary	LCR Alluvium	8/2/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
CR-1R	Supplementary	LCR Alluvium	8/2/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
CR-1R	Supplementary	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	<0.6	--	--	--
CR-1R	Supplementary	LCR Alluvium	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.6	--	--	--

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red text.
Duplicate sample dates under the same locations are either field duplicates or are instances of samples with multiple filed/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

< = less than
BTV = Background Threshold Value
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
UJ = The analyte was analyzed for, but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-64A	Background	Alluvial	2/20/2017	**1.1**	**570**	**4,000**	< 8.0	**7.4**	**4,100**	**11,000**	< 0.0010	**0.00087**	--	**0.036**	< 0.0010	**0.00011**	**0.0018**	**0.0024**	--	< 8.0	< 0.00050	**0.26**	< 0.00020	**0.0065**	**0.00074**	< 0.00010	**0.8**
M-64A	Background	Alluvial	2/20/2017	**1.2**	**520**	**4,500**	< 0.80	**7.4**	**4,400**	**10,000**	< 0.0010	**0.00094**	--	**0.034**	< 0.0010	< 0.00010	**0.0021**	**0.0015**	--	< 0.80	< 0.00050	**0.27**	< 0.00020	**0.0061**	**0.00082**	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/12/2017	**1.2**	**550**	**4,200**	< 2.0	**7.7**	**4,300**	**13,000**	< 0.0010	**0.0026**	--	**0.019**	< 0.0010	< 0.00010	**0.00078**	**0.00082**	--	< 2.0	< 0.00050	**0.25**	< 0.00020	**0.0053**	< 0.00050	< 0.00010	**0.8**
M-64A	Background	Alluvial	4/12/2017	**1.2**	**500**	**4,200**	< 0.80	**7.6**	**4,200**	**13,000**	< 0.0010	**0.0026**	--	**0.019**	< 0.0010	< 0.00010	**0.0015**	**0.00068**	--	< 0.80	**0.00071**	**0.25**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/25/2017	**1.3**	**490**	**4,100**	< 0.80	**7.5**	**4,300**	**11,000**	< 0.0010	**0.0017**	--	**0.015**	< 0.0010	< 0.00010	< 0.00050	**0.00056**	--	< 0.80	< 0.00050	**0.27**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	**1.6**
M-64A	Background	Alluvial	5/18/2017	**1.3**	**510**	**4,400**	< 0.80	**7.6**	**4,400**	**12,000**	< 0.0010	**0.0016**	--	**0.012**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	< 0.80	< 0.00050	**0.28**	< 0.00020	**0.0042**	< 0.00050	< 0.00010	**1.3**
M-64A	Background	Alluvial	5/24/2017	**1.2**	**520**	**4,000**	< 0.80	**7.4**	**4,100**	**12,000**	< 0.0010	**0.0023**	--	**0.014**	< 0.0010	< 0.00010	**0.00063**	**0.00052**	--	< 0.80	< 0.0020	**0.27**	< 0.00020	**0.0050**	< 0.00050	< 0.00040	**1.1**
M-64A	Background	Alluvial	5/24/2017	**1.3**	**520**	**4,200**	< 0.80	**7.4**	**4,400**	**12,000**	< 0.0010	**0.0019**	--	**0.014**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	< 0.80	< 0.0020	**0.27**	< 0.00020	**0.0051**	< 0.00050	< 0.00040	**0.4**
M-64A	Background	Alluvial	6/30/2017	**1.2**	**600**	**5,100**	< 0.80	**7.3**	**4,700**	**13,000**	< 0.0010	**0.0033**	--	**0.017**	< 0.0010	< 0.00010	< 0.00050	**0.0011**	--	< 0.80	< 0.00050	**0.25**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	< 0.7
M-64A	Background	Alluvial	7/27/2017	**1.3**	**620**	**4,700**	< 0.80	**7.4**	**4,600**	**13,000**	< 0.0020	**0.0027**	--	**0.017**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	--	< 0.80	< 0.0010	**0.25**	< 0.00020	**0.0051**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	7/27/2017	**1.3**	**640**	**4,900**	< 0.80	**7.4**	**4,800**	**13,000**	< 0.0020	**0.0028**	--	**0.017**	< 0.0010	< 0.00020	< 0.0010	< 0.0010	--	< 0.80	< 0.0010	**0.25**	< 0.00020	**0.0051**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	9/7/2017	**1.2**	**620**	**4,700**	< 0.80	**7.3**	**4,300**	**12,000**	< 0.0040	**0.0025**	--	**0.017**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	--	< 0.80	< 0.0020	**0.26**	< 0.00020	**0.0059**	< 0.0020	< 0.00040	< 0.7
M-64A	Background	Alluvial	12/8/2017	**1.2**	**500**	**3,500**	< 0.80	**7.4**	**4,400**	**12,000**	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--
M-64A	Background	Alluvial	2/15/2018	--	--	--	< 0.80	--	--	--	< 0.0020	< 0.0010	--	**0.015**	< 0.0010	< 0.00020	**0.0022**	< 0.00050	--	< 0.80	< 0.0010	**0.27**	< 0.00020	**0.0058**	< 0.00050	< 0.00020	**1.0**
M-64A	Background	Alluvial	2/15/2018	--	--	--	< 0.80	--	--	--	< 0.0020	< 0.0010	--	**0.015**	< 0.0010	< 0.00020	**0.0022**	< 0.00050	--	< 0.80	< 0.0010	**0.27**	< 0.00020	**0.0058**	< 0.00050	< 0.00020	**0.966**
M-64A	Background	Alluvial	5/19/2018	**1.4**	**460**	**4,700**	< 0.80	**7.3**	**4,600**	**13,000**	< 0.0020	**0.0012**	--	**0.012**	--	< 0.00020	< 0.0020	< 0.0010	--	< 0.80	< 0.0010	**0.26**	--	**0.0055**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	10/22/2018	**1.3**	**500**	**4,100**	< 2.0	**7.3**	**4,000**	**12,000**	--	**0.0011**	--	**0.011**	--	< 0.00010	< 0.0010	< 0.00050	--	< 2.0	< 0.00050	**0.25**	--	**0.0050**	< 0.00050	< 0.00010	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-64A	Background	Alluvial	10/22/2018	**1.3**	**510**	**3,900**	< 0.80	**7.4**	**3,700**	**13,000**	--	**0.0013**	--	**0.011**	--	< 0.00010	< 0.0010	< 0.00050	--	< 0.80	< 0.00050	**0.25**	--	**0.0052**	< 0.00050	< 0.00010	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-64A	Background	Alluvial	2/13/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.00089**	--	**0.012**	< 0.0010	< 0.00010	< 0.0010	< 0.00050	--	< 0.80	< 0.00050	**0.29**	< 0.00020	**0.0049**	**0.00052**	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/11/2019	**1.3**	**500**	**4,400**	< 0.80	**7.3 J**	**4,300**	**12,000**	--	**0.00058**	--	**0.011**	--	< 0.0001	< 0.001	< 0.0005	--	< 0.80	< 0.0005	**0.27**	--	**0.0050**	**0.00053**	--	--
M-64A	Background	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.00058**	--	**0.012**	--	< 0.00010	< 0.0010	< 0.00050	--	< 0.80	< 0.00050	**0.25**	--	**0.0050**	**0.00078**	< 0.00010	< 0.7
M-64A	Background	Alluvial	8/1/2019	**1.3**	**450**	**4,300**	< 0.8	**7.4 J**	**4,300**	**12,000**	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
M-64A	Background	Alluvial	8/1/2019	**1.3**	**450**	**4,200**	< 0.8	**7.4 J**	**4,300**	**12,000**	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/24/2019	**1.2**	**460**	**8,400**	< 0.80	**7.5 J**	**8,600**	**13,000**	< 0.0020	**0.0018**	--	**0.013 J**	< 0.0010	< 0.00020	< 0.0020	< 0.0010	--	< 0.80	< 0.0010	**0.26**	< 0.00020	**0.0059**	< 0.0010	< 0.00020	--
M-64A	Background	Alluvial	5/6/2020	**1.3**	**510**	**4,100**	< 0.8	**7.6 J**	**4,100**	**12,000**	--	< 0.001	**0.00093**	**0.012**	< 0.001	< 0.0001	< 0.002	< 0.001	< 0.0005	< 0.8	< 0.0005	**0.47**	--	**0.0043**	< 0.001	--	< 0.8
M-64A	Background	Alluvial	5/6/2020	**1.2**	**520**	**3,900**	< 0.8	**7.3 J**	**3,900**	**12,000**	--	**0.00086**	**0.00050**	**0.013**	< 0.001	< 0.0001	< 0.001	< 0.0005	< 0.0005	< 0.8	< 0.0005	**0.47**	--	**0.0042**	< 0.001	--	< 0.8
M-64A	Background	Alluvial	10/24/2020	**1.2**	**480**	**4,500**	**0.28**	**7.3 J**	**4,400**	**12,000**	< 0.002 U	**0.0036**	< 0.002 U	**0.012**	< 0.001	< 0.0002	< 0.002	**0.00025**	< 0.002	**0.28**	**0.001**	**0.31**	< 0.0002	**0.0051**	**0.0044**	< 0.0002	< 0.8
M-64A	Background	Alluvial	4/15/2021	**1.2**	**540**	**4,300**	**0.21 J**	**7.5 J**	**4,400**	**6,600**	< 0.002	**0.0021**	**0.0027**	**0.012**	< 0.001	< 0.0002	< 0.002	< 0.001	< 0.001	**0.21 J**	< 0.001	**0.30**	< 0.0002	**0.0049**	**0.0022**	< 0.0002	<0.7
M-64A	Background	Alluvial	10/22/2021	**1.0**	**540**	**4,400**	**0.38 J**	**7.4 J**	**3,900**	**11,000 J**	**0.00013 J**	< 0.0005 U	**0.0015**	**0.012**	< 0.001	**0.000036 J**	**0.0005 J**	< 0.0005	**0.000091 J**	**0.38 J**	< 0.0005	**0.28**	< 0.0002	**0.0046**	**0.0002 J**	< 0.0001	< 0.6

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-43A	Supplementary	Alluvial	12/21/2016	**0.85**	**850**	**2,400**	< 0.80	**7.3**	**2,000**	**6,600**	< 0.0010	**0.0046**	--	**0.025**	< 0.0010	< 0.00010	**0.00080**	**0.00069**	--	< 0.80	< 0.00050	**0.20**	< 0.00020	**0.0027**	< 0.00050	< 0.00010	--
M-43A	Supplementary	Alluvial	12/21/2016	--	--	--	< 0.80	--	--	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--
M-43A	Supplementary	Alluvial	4/14/2021	**2.8**	**900**	**2,100**	**0.49 J**	**7.3 J**	**2,100**	**6,200**	**0.00013 J**	**0.0031**	**0.0036**	**0.018**	< 0.001	< 0.0002	< 0.002	**0.00039 J**	**0.00036 J**	**0.49 J**	< 0.001	**0.25**	< 0.0002	**0.0031**	**0.0011**	< 0.0002	**0.6**
M-43A	Supplementary	Alluvial	10/22/2021	**1.3**	**780**	**2,100**	**0.2 J**	**7.4 J**	**2,200**	**6,200 J**	**0.00026 J**	**0.0027**	**0.0024**	**0.017**	< 0.001	< 0.0001	**0.0041**	**0.00039 J**	**0.00050**	**0.2 J**	< 0.0005	**0.20**	< 0.0002	**0.0032**	**0.00064**	**0.00011**	< 0.6
M-44D	Supplementary	Coconino Sandstone	12/2/2015	**0.26**	**91**	**1,100**	**0.70**	**7.49**	**310**	**2,200**	< 0.0025	**0.0019**	--	**0.022**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.70**	< 0.00050	< 0.20	< 0.00020	**0.0024**	< 0.00010	< 0.00010	**3.8**
M-44D	Supplementary	Coconino Sandstone	3/10/2016	**0.23**	**88**	**1,100**	**0.72**	**7.13**	**310**	**2,200**	< 0.015	< 0.0049	--	**0.020**	< 0.0010	< 0.00046	< 0.0087	< 0.0013	--	**0.72**	< 0.0044	< 0.20	< 0.00020	< 0.0040	< 0.0015	< 0.00026	**3.1**
M-44D	Supplementary	Coconino Sandstone	5/22/2016	**0.25**	**91**	**1,100**	**0.78**	--	**310**	**2,300**	< 0.00010	**0.0015**	--	**0.019**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.78**	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**3.9**
M-44D	Supplementary	Coconino Sandstone	8/26/2016	**0.24**	**90**	**1,100**	**0.77**	**7.1**	**320**	**2,300**	**0.00013**	**0.0015**	--	**0.019**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.77**	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**4.6**
M-44D	Supplementary	Coconino Sandstone	9/23/2016	**0.25**	**91**	**1,000**	**0.76**	**7.1**	**320**	**2,200**	< 0.00050	**0.0014**	--	**0.019**	< 0.0010	< 0.00010	**0.00061**	< 0.00020	--	**0.76**	< 0.00010	< 0.20	< 0.00020	**0.0026**	< 0.00060	< 0.00010	**4.4**
M-44D	Supplementary	Coconino Sandstone	2/20/2017	**0.26**	**92**	**1,100**	**0.68**	**7.1**	**430**	**2,200**	< 0.0010	**0.0012**	--	**0.018**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.68**	< 0.00050	< 0.20	< 0.00020	**0.0021**	< 0.00050	< 0.00010	**3.6**
M-44D	Supplementary	Coconino Sandstone	4/13/2017	**0.25**	**93**	**1,200**	**0.72**	**7.6**	**320**	**2,300**	< 0.0010	**0.0014**	--	**0.019**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.72**	< 0.00050	< 0.20	< 0.00020	**0.0026**	< 0.00050	< 0.00010	**4.2**
M-44D	Supplementary	Coconino Sandstone	4/24/2017	**0.26**	**91**	**1,000**	**0.73**	**7.2**	**330**	**2,200**	< 0.0010	**0.0015**	--	**0.020**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.73**	< 0.00050	< 0.20	< 0.00020	**0.0023**	< 0.00050	< 0.00010	**2.0**
M-44D	Supplementary	Coconino Sandstone	4/24/2017	**0.26**	**89**	**1,000**	**0.73**	**7.2**	**370**	**2,300**	< 0.0010	**0.0015**	--	**0.019**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.73**	< 0.00050	< 0.20	< 0.00020	**0.0023**	< 0.00050	< 0.00010	**2.4**
M-44D	Supplementary	Coconino Sandstone	5/22/2017	**0.26**	**93**	**1,100**	**0.75**	**7.4**	**330**	**2,200**	< 0.0010	**0.0013**	--	**0.017**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.75**	< 0.00050	< 0.20	< 0.00020	**0.0019**	< 0.00050	< 0.00010	**3.6**
M-44D	Supplementary	Coconino Sandstone	5/25/2017	**0.26**	**96**	**1,400**	**0.76**	**7.4**	**400**	**2,300**	< 0.0010	**0.0015**	--	**0.02**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.76**	< 0.00050	< 0.20	< 0.00020	**0.0022**	< 0.00050	< 0.00010	**4.7**
M-44D	Supplementary	Coconino Sandstone	6/29/2017	**0.25**	**88**	**1,200**	**0.79**	**7.2**	**340**	**2,200**	< 0.0010	**0.0015**	--	**0.019**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**0.79**	< 0.00050	< 0.20	< 0.00020	**0.0023**	< 0.00050	< 0.00010	**4.6**
M-44D	Supplementary	Coconino Sandstone	7/29/2017	**0.26**	**93**	**1,200**	**0.78**	**7.1**	**350**	**2,400**	< 0.0040	< 0.0020	--	**0.020**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	--	**0.78**	< 0.0020	< 0.20	< 0.00020	**0.0023**	< 0.0020	< 0.00040	**3.2**
M-44D	Supplementary	Coconino Sandstone	9/5/2017	**0.27**	**93**	**1,100**	**0.77**	**7.1**	**330**	**2,300**	< 0.0010	**0.0015**	--	**0.020**	< 0.0010	< 0.00010	< 0.0010	< 0.00050	--	**0.77**	< 0.00050	< 0.20	< 0.00020	**0.0021**	< 0.00050	< 0.00010	**4.3**
M-44D	Supplementary	Coconino Sandstone	5/7/2020	--	**89**	**970**	**0.81**	--	**310**	--	--	--	--	--	--	--	--	--	--	**0.81**	--	--	--	--	--	--	--
M-44D	Supplementary	Coconino Sandstone	10/24/2020	**0.22**	**78**	**960**	**0.73**	**7.1 J**	**290**	**2,300**	< 0.004	**0.0057**	--	**0.021**	< 0.001 U	< 0.0004	< 0.004	< 0.002	--	**0.73**	**0.0013**	**0.035**	< 0.0002	**0.0018**	< 0.002 U	< 0.0004	**4.1**
M-44D	Supplementary	Coconino Sandstone	4/16/2021	**0.25**	**91**	**1,000**	**0.77 J**	**7.0 J**	**330 J**	**2,300**	< 0.002	**0.0014**	--	**0.021**	< 0.001 U	< 0.0002	< 0.002	< 0.001	--	**0.77 J**	< 0.001	**0.040**	< 0.0002	**0.0029**	< 0.001	< 0.0002	**2.8**
M-44D	Supplementary	Coconino Sandstone	4/16/2021	**0.29**	**87**	**1,000**	**0.75 J**	**7.0 J**	**320 J**	**2,300**	< 0.002 U	**0.0023**	--	**0.020 J**	< 0.001	< 0.0002	< 0.002	< 0.001	--	**0.75 J**	< 0.001	**0.039**	< 0.0002	**0.0027**	**0.00081 J**	< 0.0002	**3.1**
M-44D	Supplementary	Coconino Sandstone	10/23/2021	**0.24 J**	**84**	**1,100**	**0.76 J**	**7.1 J**	**330 J**	**2,200 J**	**0.000071 J**	< 0.0016 UJ	--	**0.020**	< 0.001	**0.000043 J**	< 0.001	< 0.0005	--	**0.76 J**	< 0.0005	**0.041**	< 0.0002	**0.0021 J**	**0.00019 J**	**0.00044**	**5.0**
M-44D	Supplementary	Coconino Sandstone	10/23/2021	**0.43 J**	**83**	**1,100**	**0.66 J**	--	**410 J**	--	**0.000069 J**	**0.00093 J**	--	**0.021**	< 0.001	< 0.0001	**0.00044 J**	< 0.0005	--	**0.66 J**	< 0.0005	**0.039**	< 0.0002	**0.0032 J**	< 0.0005	< 0.0001	**4.3**
M-45A	Supplementary	Alluvial	09/17/2013	--	--	**960**	--	--	**2,200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.001	--
M-45A	Supplementary	Alluvial	09/17/2013	**0.994**	**725**	--	**1.0**	**6.8**	--	**5,090**	< 0.0060	< 0.010	--	< 0.20	< 0.0050	< 0.0020	< 0.010	--	--	**1.0**	< 0.010	--	< 0.00020	--	< 0.010	--	--
M-45A	Supplementary	Alluvial	11/21/2013	--	--	**860**	--	--	**2,100**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.001	--
M-45A	Supplementary	Alluvial	11/21/2013	**1.01**	**713**	--	**0.67**	**7.02**	--	**3,130**	< 0.0060	< 0.010	--	< 0.20	< 0.0050	< 0.0020	< 0.010	--	--	**0.67**	< 0.010	--	< 0.00020	--	< 0.010	--	--
M-45A	Supplementary	Alluvial	03/26/2014	**1.01**	**736**	--	**0.83**	**6.98**	--	**5,090**	< 0.006	< 0.01	--	< 0.2	< 0.015	< 0.002	< 0.01	--	--	**0.83**	< 0.01	--	< 0.0002	--	< 0.01	--	--
M-45A	Supplementary	Alluvial	06/10/2014	**0.841**	**760**	**770**	**0.90**	**7.16**	**2,200**	**4,990**	< 0.006	< 0.01	--	< 0.2	< 0.005	< 0.002	< 0.01	--	--	**0.90**	< 0.01	--	< 0.0002	--	< 0.01	< 0.0005	--
M-45A	Supplementary	Alluvial	06/16/2015	**1.13**	**701**	**843**	**0.90**	**7.08**	**2,730**	**5,370**	< 0.006	< 0.01	--	< 0.2	< 0.005	< 0.002	< 0.01	--	--	**0.90**	< 0.01	--	< 0.0002	--	< 0.01	< 0.01	--
M-45A	Supplementary	Alluvial	12/21/2016	**1.1**	**630**	**800**	**0.76**	**7.2**	**2,100**	**4,400**	< 0.0010	**0.00066**	--	**0.017**	< 0.0010	< 0.00010	**0.0013**	**0.0014**	--	**0.76**	< 0.00050	< 0.20	< 0.00020	**0.0030**	< 0.00050	< 0.00010	--
M-45A	Supplementary	Alluvial	12/21/2016	--	--	--	**0.78**	--	--	--	--	--	--	--	--	--	--	--	--	**0.78**	--	--	--	--	--	--	--
M-45A	Supplementary	Alluvial	4/14/2021	**1.1**	**690**	**810**	**0.65 J**	**7.2 J**	**2,300**	**4,200**	< 0.002	**0.0036**	--	**0.014**	< 0.001	< 0.0002	< 0.002	**0.00095 J**	--	**0.65 J**	< 0.001	**0.20**	< 0.0002	**0.016**	**0.00082 J**	< 0.0002	<0.7
M-45A	Supplementary	Alluvial	10/22/2021	**1.0**	**640**	**790**	**0.57 J**	**7.1 J**	**2,400**	**4,200 J**	**0.000049 J**	**0.0032**	--	**0.017**	< 0.001	< 0.0001	< 0.001	**0.0011**	--	**0.57 J**	< 0.0005	**0.20**	< 0.0002	**0.0039**	**0.00052**	**0.000057 J**	**0.7**
M-46A	Supplementary	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.5**
M-46A	Supplementary	Alluvial	11/26/2019	**0.64**	**1,300**	**6,400**	< 0.80	**7.0 J**	**1,900**	**13,000**	--	**0.0042**	--	**0.037**	--	< 0.00010	< 0.0040	< 0.0020	--	< 0.80	**0.00052**	**0.23**	--	**0.026**	< 0.0020	--	--
M-46A	Supplementary	Alluvial	5/5/2020	**0.64**	**1,300**	**7,100 J**	< 0.8 UJ	**7.4 J**	**7,800 J**	**13,000**	--	**0.0013**	**0.0011**	**0.031**	< 0.001	< 0.0001	**0.0011**	**0.00081**	**0.00079**	< 0.8 UJ	< 0.0005	**0.35**	--	**0.0068**	< 0.001	--	< 0.8
M-46A	Supplementary	Alluvial	10/25/2020	**0.58**	**1,300**	**6,900**	**0.51**	**7.2 J**	**2,100**	**13,000**	< 0.002 U	**0.0038**	**0.0039**	**0.028**	< 0.001	< 0.0002	**0.0046**	**0.0015**	**0.0016**	**0.51**	< 0.001	**0.25**	< 0.0002	**0.0093**	**0.0047**	< 0.0002 U	< 0.8
M-46A	Supplementary	Alluvial	4/14/2021	**0.66**	**1,400**	**6,900**	**0.68 J**	**7.2 J**	**2,200**	**14,000**	< 0.002	**0.0059**	**0.0046**	**0.029**	< 0.001	< 0.0002	**0.053**	**0.0010**	**0.0013**	**0.68 J**	< 0.001	**0.26**	< 0.0002	**0.012**	**0.0012**	< 0.0002	<0.7
M-46A	Supplementary	Alluvial	10/22/2021	**0.64**	**1,200**	**6,700**	**0.97**	**7.1 J**	**2,300**	**12,000 J**	**0.0001 J**	**0.0042**	**0.0027**	**0.027**	< 0.001	**0.000051 J**	**0.033**	**0.0010**	**0.0015**	**0.97**	< 0.0005	**0.24**	< 0.0002	**0.010**	**0.00062**	**0.000052 J**	**0.8**

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-50A	Downgradient	Alluvial	12/2/2015	**2.8**	**680**	**2,800**	**2.0**	**7.55**	**2,900**	**8,300**	< 0.0025	**0.0023**	--	**0.018**	< 0.0010	< 0.00010	< 0.00050	**0.00051**	--	**2.0**	< 0.00050	**0.51**	< 0.00020	**0.0050**	**0.0068**	< 0.00010	< 0.7
M-50A	Downgradient	Alluvial	12/2/2015	**2.7**	**670**	**2,900**	**2.0**	**7.23**	**2,900**	**8,300**	< 0.0025	**0.0022**	--	**0.016**	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	**2.0**	< 0.00050	**0.51**	< 0.00020	**0.0049**	**0.0066**	< 0.00010	< 0.7
M-50A	Downgradient	Alluvial	3/8/2016	**2.9**	**660**	**5,300**	**2.0**	**7.37**	**5,700**	**8,300**	< 0.015	< 0.0049	--	**0.013**	< 0.0010	< 0.00046	< 0.0087	< 0.0013	--	**2.0**	< 0.0044	**0.47**	< 0.00020	**0.0059 J**	**0.0050 J**	< 0.00026	< 0.5
M-50A	Downgradient	Alluvial	5/5/2016	**3.0**	**680**	**2,500**	**2.2**	--	**2,700**	**8,300**	**0.00026**	**0.0025**	--	**0.011**	< 0.0010	< 0.00010	< 0.00050	**0.00051**	--	**2.2**	< 0.00050	**0.47**	< 0.00020	**0.0056**	**0.0054**	< 0.00010	**0.7**
M-50A	Downgradient	Alluvial	8/25/2016	**2.6**	**650**	**2,600**	**2.3**	**7.2**	**2,800**	**8,400**	**0.00018**	**0.0025**	--	**0.0084**	< 0.0010	< 0.00010	< 0.00050	**0.00056**	--	**2.3**	< 0.00050	**0.45**	< 0.00020	**0.0059**	**0.0049**	< 0.00010	< 0.6
M-50A	Downgradient	Alluvial	9/23/2016	**2.8**	**630**	**2,500**	**2.1**	**7.4**	**2,900**	**8,500**	< 0.00050	**0.0024**	--	**0.0093**	< 0.0010	< 0.00010	**0.0024**	**0.00084**	--	**2.1**	**0.00012**	**0.50**	< 0.00020	**0.0075**	**0.0046**	**0.00013**	**1.1**
M-50A	Downgradient	Alluvial	2/21/2017	**2.9**	**680**	**2,400**	**2.1**	**7.5**	**2,800**	**7,900**	< 0.0010	**0.0026**	--	**0.014**	< 0.0010	< 0.00010	**0.022**	**0.00090**	--	**2.1**	< 0.00050	**0.50**	< 0.00020	**0.0091**	**0.0043**	< 0.00010	< 0.6
M-50A	Downgradient	Alluvial	4/13/2017	**2.8**	**680**	**2,800**	**2.0**	**7.8**	**3,000**	**8,200**	< 0.0010	**0.0030**	--	**0.010**	< 0.0010	< 0.00010	**0.015**	**0.00093**	--	**2.0**	< 0.00050	**0.46**	< 0.00020	**0.0083**	**0.0040**	< 0.00010	< 0.6
M-50A	Downgradient	Alluvial	4/26/2017	**2.8**	**620**	**2,400**	**2.0**	**7.2**	**2,900**	**7,900**	< 0.0010	**0.0024**	--	**0.0084**	< 0.0010	< 0.00010	**0.0066**	**0.00069**	--	**2.0**	< 0.00050	**0.48**	< 0.00020	**0.0067**	**0.0042**	< 0.00010	< 0.6
M-50A	Downgradient	Alluvial	5/18/2017	**2.8**	**670**	**2,600**	**2.2**	**7.6**	**3,200**	**7,300**	< 0.0010	**0.0023**	--	**0.0081**	< 0.0010	< 0.00010	**0.0049**	**0.00056**	--	**2.2**	< 0.00050	**0.48**	< 0.00020	**0.0059**	**0.0037**	< 0.00010	**0.6**
M-50A	Downgradient	Alluvial	5/24/2017	**3.0**	**680**	**2,700**	**2.3**	**7.4**	**3,200**	**8,300**	< 0.0010	**0.0026**	--	**0.0085**	< 0.0010	< 0.00010	**0.0037**	**0.00067**	--	**2.3**	< 0.00050	**0.49**	< 0.00020	**0.0061**	**0.0044**	< 0.00010	**0.8**
M-50A	Downgradient	Alluvial	6/30/2017	**2.7**	**630**	**2,700**	**2.4**	**7.3**	**3,300**	**8,100**	< 0.0010	**0.0025**	--	**0.0084**	< 0.0010	< 0.00010	**0.0038**	**0.0014**	--	**2.4**	< 0.00050	**0.45**	< 0.00020	**0.028**	**0.0040**	**0.00011**	< 0.7
M-50A	Downgradient	Alluvial	7/27/2017	**2.8**	**660**	**2,600**	**2.5**	**7.4**	**3,100**	**8,400**	< 0.0040	**0.0025**	--	**0.0089**	< 0.0010	< 0.00040	< 0.0020	< 0.0020	--	**2.5**	< 0.0020	**0.46**	< 0.00020	**0.0077**	**0.0039**	< 0.00040	< 0.7
M-50A	Downgradient	Alluvial	9/7/2017	**3.0**	**660**	**2,500**	**2.2**	**7.2**	**3,100**	**8,400**	< 0.0040	**0.0026**	--	**0.0091**	< 0.0010	< 0.00040	< 0.0040	< 0.0020	--	**2.2**	< 0.0020	**0.48**	< 0.00020	**0.0091**	**0.0030**	< 0.00040	< 0.6
M-50A	Downgradient	Alluvial	12/8/2017	**2.9**	**650**	**2,600**	**2.2**	**7.4**	**3,000**	**8,000**	--	--	--	--	--	--	--	--	--	**2.2**	--	--	--	--	--	--	--
M-50A	Downgradient	Alluvial	2/14/2018	--	--	--	**2.4**	--	--	--	< 0.0020	**0.0026**	--	**0.0095**	< 0.0010	< 0.00020	< 0.0020	< 0.0010	--	**2.4**	< 0.0010	**0.43**	< 0.00020	**0.0088**	**0.0034**	< 0.00020	**0.2**
M-50A	Downgradient	Alluvial	2/14/2018	--	--	--	**2.6**	--	--	--	< 0.0010	**0.0027**	--	**0.0087**	< 0.0010	< 0.00010	**0.0010**	**0.00055**	--	**2.6**	**0.0012**	**0.44**	< 0.00020	**0.0085**	**0.0029**	< 0.00010	**0.5**
M-50A	Downgradient	Alluvial	5/21/2018	**3.0**	**610**	**2,400**	**2.4**	**7.2**	**3,100**	**7,900**	--	**0.0025**	--	**0.0086**	--	< 0.00010	**0.0012**	**0.00079**	--	**2.4**	< 0.00050	**0.43**	--	**0.0070**	**0.0027**	--	**0.4**
M-50A	Downgradient	Alluvial	10/24/2018	**3.1**	**630**	**2,200**	**1.9**	**7.4**	**3,100**	**8,100**	--	**0.0028**	--	**0.0092**	--	< 0.00010	**0.0046**	**0.00063**	--	**1.9**	< 0.00050	**0.43**	--	**0.0071**	**0.0026**	--	< 0.6
M-50A	Downgradient	Alluvial	2/13/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.00076**	--	**0.012**	< 0.0010	< 0.00010	< 0.0010	< 0.00050	--	< 0.80	< 0.00050	**0.29**	< 0.00020	**0.0048**	< 0.00050	< 0.00010	**0.9**
M-50A	Downgradient	Alluvial	2/13/2019	--	--	--	**2.2**	--	--	--	< 0.0010	**0.0028**	--	**0.0086**	< 0.0010	< 0.00010	**0.0014**	**0.00069**	--	**2.2**	< 0.00050	**0.46**	< 0.00020	**0.0070**	**0.0027**	< 0.00010	< 0.6
M-50A	Downgradient	Alluvial	4/11/2019	**47**	**750**	**6,700**	**3.7**	**7.4**	**3,900**	**16,000**	--	**0.0016**	--	**0.0094**	--	< 0.0001	**0.0069**	**0.0041**	--	**3.7**	< 0.0005	**0.73**	--	**0.22**	**0.0019**	--	--
M-50A	Downgradient	Alluvial	4/11/2019	**3.1**	**610**	**2,200**	**2.0**	**7.4**	**3,000**	**7,700**	--	**0.0030**	--	**0.0088**	--	< 0.0001	**0.0011**	**0.00062**	--	**2.0**	< 0.0005	**0.44**	--	**0.0071**	**0.0025**	--	< 0.7
M-50A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-50A	Downgradient	Alluvial	11/25/2019	**3.1**	**610**	**2,100**	**2.1**	**7.1 J**	**3,000**	**7,800**	--	**0.0027**	--	**0.010**	--	< 0.00010	**0.0071**	**0.00053**	--	**2.1**	< 0.00050	**0.43**	--	**0.0083**	**0.0022**	--	--
M-50A	Downgradient	Alluvial	5/6/2020	**3.0**	**600**	**1,900**	**2.3**	**7.5 J**	**3,000**	**7,700**	--	**0.0027**	**0.0024**	**0.0093**	< 0.001	< 0.0001	**0.0024**	**0.00066**	< 0.0005	**2.3**	< 0.0005	**0.55**	--	**0.0065**	**0.0018**	--	< 0.8
M-50A	Downgradient	Alluvial	10/25/2020	**2.9**	**560**	**2,100**	**2.2**	**7.3 J**	**3,200**	**7,400**	< 0.002 U	**0.0043**	**0.0040**	**0.0096**	< 0.001	**0.00014**	**0.053**	**0.0016**	**0.0012**	**2.2**	< 0.001	**0.48**	< 0.0002	**0.014**	**0.0050**	< 0.0002 U	< 0.8
M-50A	Downgradient	Alluvial	4/15/2021	**3.0**	**630**	**2,000**	**2.4**	**7.5 J**	**3,200**	**8,100 J**	< 0.002	**0.0040**	**0.0051**	**0.009**	< 0.001	< 0.0002	**0.0034**	**0.00045 J**	**0.00067 J**	**2.4**	< 0.001	**0.44**	< 0.0002	**0.0082**	**0.0032**	< 0.0002	<0.7
M-50A	Downgradient	Alluvial	10/23/2021	**2.9**	**590**	**3,300**	**2.3**	**7.4 J**	**6,300**	**7,200 J**	**0.0001 J**	**0.0041**	**0.0044**	**0.009**	< 0.001	**0.000032 J**	**0.0036**	**0.00058**	**0.00077**	**2.3**	< 0.0005	**0.44**	< 0.0002	**0.009**	**0.0017**	**0.000094 J**	< 0.6

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-51A	Downgradient	Alluvial	12/2/2015	**33**	**940**	**6,700**	**4.8**	**7.29**	**2,800**	**13,000**	< 0.0025	**0.020**	--	**0.012**	< 0.0010	< 0.00010	< 0.010	< 0.010	--	**4.8**	< 0.00050	**0.60**	< 0.00020	**0.034**	< 0.00010	**0.00020**	< 0.9
M-51A	Downgradient	Alluvial	3/9/2016	**33**	**930**	**6,400**	**5.2**	**7.27**	**2,700**	**14,000**	< 0.015	**0.016 J**	--	**0.0095**	< 0.0010	< 0.00046	< 0.022	< 0.0031	--	**5.2**	< 0.0044	**0.54**	< 0.00020	**0.031**	< 0.0037	< 0.00026	< 0.9
M-51A	Downgradient	Alluvial	3/9/2016	**32**	**920**	**6,500**	**6.1**	**7.22**	**2,700**	**14,000**	< 0.015	**0.018 J**	--	**0.011**	< 0.0010	< 0.00046	< 0.022	< 0.0031	--	**6.4**	< 0.0044	**0.56**	< 0.00020	**0.034**	< 0.0037	< 0.00026	< 0.8
M-51A	Downgradient	Alluvial	5/5/2016	**35**	**980**	**6,600**	**5.5**	--	**2,800**	**14,000**	< 0.00010	**0.0029**	--	**0.011**	< 0.0010	< 0.00010	< 0.0020	< 0.0020	--	**5.5**	< 0.00050	**0.57**	< 0.00020	**0.029**	< 0.0020	**0.00015**	< 0.8
M-51A	Downgradient	Alluvial	8/25/2016	**36**	**960**	**6,500**	**6.0**	**7.1**	**3,000**	**15,000**	**0.00015**	**0.029**	--	**0.010**	< 0.0010	**0.00011**	< 0.0050	< 0.0050	--	**6.0**	< 0.00050	**0.56**	< 0.00020	**0.042**	< 0.0050	**0.00027**	< 0.6
M-51A	Downgradient	Alluvial	9/23/2016	**36**	**920**	**6,000**	**5.4**	**7.3**	**2,800**	**15,000**	< 0.0025	**0.025**	--	**0.010**	< 0.0010	< 0.00050	< 0.0025	**0.0025**	--	**5.4**	< 0.00050	**0.61**	< 0.00020	**0.043**	< 0.0030	< 0.00050	< 0.7
M-51A	Downgradient	Alluvial	2/21/2017	**33**	**920**	**6,500**	**4.4**	**7.1**	**2,800**	**13,000**	< 0.0010	**0.023**	--	**0.0091**	< 0.0010	< 0.00010	**0.053**	**0.0023**	--	**4.4**	< 0.00050	**0.58**	< 0.00020	**0.038**	< 0.0020	**0.00014**	**0.6**
M-51A	Downgradient	Alluvial	4/13/2017	**35**	**970**	**7,500**	**4.1**	**7.6**	**2,900**	**14,000**	< 0.0010	**0.020**	--	**0.0099**	< 0.0010	< 0.00010	**0.014**	< 0.0020	--	**4.1**	< 0.00050	**0.49**	< 0.00020	**0.038**	< 0.0020	**0.00014**	< 0.6
M-51A	Downgradient	Alluvial	4/26/2017	**35**	**880**	**6,300**	**4.6**	**7.2**	**2,900**	**13,000**	< 0.0010	**0.024**	--	**0.0096**	< 0.0010	< 0.00010	**0.0081**	< 0.0050	--	**4.6**	< 0.0010	**0.57**	< 0.00020	**0.036**	< 0.0050	< 0.00020	< 0.6
M-51A	Downgradient	Alluvial	5/18/2017	**35**	**890**	**6,800**	**5.0**	**7.3**	**3,200**	**13,000**	< 0.0010	**0.024**	--	**0.0096**	< 0.0010	< 0.00010	**0.0081**	< 0.0050	--	**5.0**	< 0.00050	**0.56**	< 0.00020	**0.030**	< 0.0050	**0.00012**	< 0.6
M-51A	Downgradient	Alluvial	5/24/2017	**38**	**940**	**6,600**	**5.3**	**7.3**	**3,100**	**13,000**	< 0.010	**0.028**	--	**0.012**	< 0.0010	< 0.0010	**0.0084**	< 0.0050	--	**5.3**	< 0.0050	**0.54**	< 0.00020	**0.036**	< 0.0050	< 0.0010	**0.6**
M-51A	Downgradient	Alluvial	6/30/2017	**36**	**860**	**7,100**	**5.1**	**7.2**	**3,300**	**14,000**	< 0.0010	**0.029**	--	**0.010**	< 0.0010	< 0.00010	**0.012**	< 0.010	--	**5.1**	< 0.00050	**0.52**	< 0.00020	**0.038**	< 0.010	**0.00019**	< 0.7
M-51A	Downgradient	Alluvial	6/30/2017	**36**	**880**	**7,000**	**4.9**	**7.2**	**3,300**	**14,000**	< 0.0010	**0.029**	--	**0.010**	< 0.0010	< 0.00010	< 0.010	< 0.010	--	**4.9**	< 0.00050	**0.54**	< 0.00020	**0.038**	< 0.010	**0.00021**	< 0.7
M-51A	Downgradient	Alluvial	7/27/2017	**38**	**950**	**7,100**	**6.0**	**7.3**	**3,500**	**14,000**	< 0.0020	**0.026**	--	**0.0098**	< 0.0010	< 0.00020	**0.070**	< 0.0050	--	**6.0**	< 0.0010	**0.54**	< 0.00020	**0.054**	< 0.0050	**0.00021**	< 0.7
M-51A	Downgradient	Alluvial	9/7/2017	**38**	**950**	**6,600**	**5.7**	**7.2**	**3,100**	**14,000**	< 0.0040	**0.035**	--	**0.0097**	< 0.0010	< 0.00040	**0.036**	< 0.0050	--	**5.7**	< 0.0020	**0.55**	< 0.00020	**0.054**	< 0.0050	< 0.00040	< 0.6
M-51A	Downgradient	Alluvial	12/8/2017	**34**	**910**	**5,900**	**5.1**	**7.3**	**2,800**	**13,000**	--	--	--	--	--	--	--	--	--	**5.1**	--	--	--	--	--	--	--
M-51A	Downgradient	Alluvial	2/14/2018	--	--	--	**5.4**	--	--	--	< 0.0020	**0.015**	--	**0.0089**	< 0.0010	< 0.00020	**0.0034**	**0.0010**	--	**5.4**	< 0.0010	**0.49**	< 0.00020	**0.046**	< 0.00050	< 0.00020	**0.2**
M-51A	Downgradient	Alluvial	5/21/2018	**34**	**820**	**5,800**	**5.7**	**7.1**	**3,100**	**12,000**	--	**0.022**	--	**0.010**	--	< 0.00020	**0.040**	**0.0018**	--	**5.7**	< 0.0010	**0.48**	--	**0.057**	< 0.0010	--	< 0.6
M-51A	Downgradient	Alluvial	10/24/2018	**30**	**870**	**5,400**	**5.0**	**7.3**	**2,900**	**12,000**	--	**0.032**	--	**0.0074**	--	**0.00010**	**0.021**	< 0.0050	--	**5.0**	< 0.00050	**0.46**	--	**0.09**	< 0.0050	--	< 0.6
M-51A	Downgradient	Alluvial	2/13/2019	--	--	--	**4.5**	--	--	--	< 0.0010	**0.025**	--	**0.0070**	< 0.0010	< 0.00010	**0.013**	< 0.0020	--	**4.5**	< 0.00050	**0.49**	< 0.00020	**0.082**	< 0.0020	**0.00013**	< 0.6
M-51A	Downgradient	Alluvial	4/10/2019	**31**	**790**	**5,000**	**5.4**	**7.2**	**2,800**	**12,000**	--	**0.032**	--	**0.0091**	--	< 0.0002	**0.016**	< 0.005	--	**5.4**	< 0.0005	**0.45**	--	**0.09**	< 0.005	--	< 0.7
M-51A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-51A	Downgradient	Alluvial	11/25/2019	**30**	**820**	**5,300**	**4.8**	**7.2 J**	**2,900**	**12,000**	--	**0.018**	--	**0.0086**	--	< 0.00010	< 0.0010	**0.00076**	--	**4.8**	< 0.00050	**0.45**	--	**0.11**	< 0.00050	--	--
M-51A	Downgradient	Alluvial	5/6/2020	**32**	**860**	**5,300**	**5.6**	**7.2 J**	**2,900**	**12,000**	--	**0.015**	**0.015**	**0.0091**	< 0.001	< 0.0001	**0.0026**	**0.0013**	**0.00078**	**5.6**	< 0.0005	**0.65**	--	**0.090**	< 0.0005	--	< 0.8
M-51A	Downgradient	Alluvial	10/25/2020	**30**	**840**	**5,600 J**	**5.9**	**7.3 J**	**3,100**	**11,000**	< 0.002 U	**0.028**	**0.027**	**0.0085**	< 0.001	**0.00017**	**0.0060**	**0.0015**	**0.0012**	**5.9**	**0.00053**	**0.47**	< 0.0002	**0.12**	< 0.002	**0.00019**	< 0.8
M-51A	Downgradient	Alluvial	10/25/2020	**30**	**850**	**4,900 J**	**6.0**	**7.3 J**	**2,800**	**11,000**	< 0.002 U	**0.027**	**0.025**	**0.0086**	< 0.001	**0.00013**	**0.0073**	**0.0012**	**0.0011**	**6.0**	< 0.001	**0.47**	< 0.0002	**0.12**	< 0.001	**0.00019**	**0.4**
M-51A	Downgradient	Alluvial	4/15/2021	**30**	**890**	**5,600**	**5.7**	**7.4 J**	**3,100**	**11,000**	< 0.002	**0.023**	**0.024**	**0.010**	< 0.001	< 0.0002	**0.0075**	< 0.001	**0.00014 J**	**5.7**	< 0.001	**0.46**	< 0.0002	**0.11**	< 0.001	< 0.0002	<0.7
M-51A	Downgradient	Alluvial	10/23/2021	**28**	**840**	**8,700**	**5.7**	**7.3 J**	**5,600**	**11,000 J**	**0.0001 J**	**0.023**	**0.022**	**0.0081**	< 0.001	**0.00014**	< 0.004	**0.0015 J**	**0.0012**	**5.7**	< 0.0005	**0.45**	< 0.0002	**0.14**	< 0.002	**0.00021**	**0.7**

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	1.3	740	5,700	0.8	7.4	5,100	15,000	0.004	0.004	0.004	0.05	0.001	0.0004	0.004	0.002	0.002	0.8	0.002	0.31	0.0002	0.0061	0.002	0.0014	1.6
			FAP GWPS	--	--	--	--	--	--	--	0.006	0.01	0.01	2	0.004	0.005	0.1	0.006	0.006	4	0.015	0.31	0.002	0.1	0.05	0.002	5
M-63A	Supplementary	Alluvial	11/30/2015	0.12	160	260	< 0.40	7.72	700	1,600	< 0.0025	0.00086	--	0.039	< 0.0010	< 0.00010	< 0.00050	0.00099	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.011	0.0063	0.00019	< 0.7
M-63A	Supplementary	Alluvial	03/10/2016	0.27	160	620	< 0.40	7.53	620	2,100	< 0.050	< 0.010	--	0.030	< 0.0010	< 0.0020	< 0.010	< 0.010	--	< 0.40	< 0.010	< 0.20	< 0.00020	< 0.010	< 0.010	< 0.0020	< 0.6
M-63A	Supplementary	Alluvial	03/10/2016	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/05/2016	0.29	160	660	< 0.40	--	590	2,100	0.00015	0.00083	--	0.028	< 0.0010	< 0.00010	< 0.00050	0.0018	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0021	< 0.00050	< 0.00010	< 0.8
M-63A	Supplementary	Alluvial	08/24/2016	0.18	160	260	0.46	7.4	630	1,600	0.00053	0.00063	--	0.029	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	0.46	< 0.00050	< 0.20	< 0.00020	0.0039	0.0050	< 0.00010	1.8
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	08/24/2016	0.17	160	270	< 0.40	7.4	640	1,600	0.00037	0.00057	--	0.031	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0044	0.0060	< 0.00010	< 0.6
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	09/21/2016	0.20	160	330	< 0.40	7.6	640	1,700	< 0.00050	0.00057	--	0.025	< 0.0010	< 0.00010	< 0.00050	0.00022	--	< 0.40	< 0.00010	< 0.20	< 0.00020	0.0039	0.0029	< 0.00010	0.8
M-63A	Supplementary	Alluvial	09/21/2016	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	10/04/2016	--	160	530	< 0.40	7.8	580	1,900	--	--	--	--	< 0.0010	--	< 0.00050	--	--	< 0.40	--	--	--	--	--	< 0.00010	--
M-63A	Supplementary	Alluvial	02/20/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6
M-63A	Supplementary	Alluvial	04/13/2017	0.27	160	580	< 0.40	7.7	590	2,100	< 0.0010	0.00079	--	0.025	< 0.0010	< 0.00010	< 0.00050	0.0017	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0022	< 0.00050	< 0.00010	< 0.6
M-63A	Supplementary	Alluvial	04/13/2017	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	04/26/2017	0.26	150	570	< 0.40	7.3	640	2,000	< 0.0010	0.00073	--	0.026	< 0.0010	< 0.00010	0.0018	0.0018	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0022	< 0.00050	< 0.00010	0.8
M-63A	Supplementary	Alluvial	04/26/2017	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/22/2017	0.22	150	450	< 0.40	7.9	640	1,800	--	--	--	--	< 0.0010	< 0.00010	< 0.00050	--	--	< 0.40	< 0.00050	--	--	--	--	< 0.00010	--
M-63A	Supplementary	Alluvial	05/22/2017	0.22	160	440	< 0.40	7.8	620	1,800	< 0.0010	0.00062	--	0.024	< 0.0010	< 0.00010	< 0.00050	0.0012	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0019	0.00054	< 0.00010	< 0.6
M-63A	Supplementary	Alluvial	05/22/2017	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/24/2017	0.22	150	410	< 0.40	7.7	620	1,800	< 0.0010	0.00087	--	0.027	< 0.0010	< 0.00010	0.00074	0.0015	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0022	< 0.00050	< 0.00010	< 0.6
M-63A	Supplementary	Alluvial	05/24/2017	--	--	--	< 0.40	--	--	--	--	--	--	--	--	--	--	--	--	< 0.40	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	06/30/2017	0.19	150	300	< 0.40	7.6	670	1,600	< 0.0010	0.0010	--	0.031	< 0.0010	< 0.00010	0.0015	0.0010	--	< 0.40	< 0.00050	< 0.20	< 0.00020	0.0022	0.0017	< 0.00010	< 0.7
M-63A	Supplementary	Alluvial	07/28/2017	0.19	180	270	< 0.80	7.5	660	1,800	< 0.0020	< 0.0010	--	0.029	< 0.0010	< 0.00020	0.0010	< 0.0010	--	< 0.80	< 0.0010	< 0.20	< 0.00020	0.0021	0.0036	< 0.00020	1.0
M-63A	Supplementary	Alluvial	07/28/2017	0.19	170	320	< 0.40	7.4	720	1,800	< 0.0020	< 0.0010	--	0.029	< 0.0010	< 0.00020	0.0013	< 0.0010	--	< 0.40	< 0.0010	< 0.20	< 0.00020	0.0021	0.0037	< 0.00020	< 0.7
M-63A	Supplementary	Alluvial	09/07/2017	0.19	170	290	< 0.40	7.3	700	1,700	< 0.0040	< 0.0020	--	0.032	< 0.0010	< 0.00040	< 0.0040	< 0.0020	--	< 0.40	< 0.0020	< 0.20	< 0.00020	0.0022	0.0022	< 0.00040	< 0.7
M-63A	Supplementary	Alluvial	06/24/2019	0.23	150	330	< 0.40	7.5	600	1,700	--	--	--	--	< 0.0010	--	0.0024	--	--	< 0.40	--	--	--	--	--	< 0.00010	--
M-63A	Supplementary	Alluvial	4/15/2021	0.24	150	450	0.27 J	7.7 J	540	1,800	0.00020 J	0.0028	--	0.031	< 0.001 U	< 0.0002	< 0.002	0.0017	--	0.27 J	< 0.001	0.054	< 0.0002	0.0027	0.00036 J	< 0.0002	<0.7
M-63A	Supplementary	Alluvial	10/24/2021	0.23	150	360	0.25 J	7.6 J	600	1,500 J	0.000081 J	0.0031	--	0.029	< 0.001	0.000034 J	< 0.001	0.0011	--	0.25 J	< 0.0005	0.067	< 0.0002	0.0025	0.00011 J	0.000045 J	0.7

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
MW-65A	Downgradient	Alluvial	12/5/2018	**43**	**760**	**6,900**	**3.6 J,UJ**	**7.4 J**	**4,100**	**16,000**	< 0.0010	**0.0013 J**	--	**0.015 J**	--	< 0.00010	**0.0016 J**	**0.0038 J**	--	**3.6 J,UJ**	< 0.00050	**0.76**	< 0.00020	**0.17**	**0.0020 J**	< 0.00010	**0.9**
MW-65A	Downgradient	Alluvial	12/5/2018	**12**	**780**	**3,900**	**1.9 J,UJ**	**7.3 J**	**2,700**	**9,900**	< 0.0010	**0.0025**	--	**0.040**	--	**0.00013**	**0.0035**	**0.0047**	--	**1.9 J,UJ**	**0.0010**	**0.54**	< 0.00020	**0.059**	**0.0021**	**0.00011**	**0.9**
MW-65A	Downgradient	Alluvial	2/14/2019	--	--	--	**1.7**	--	--	--	< 0.0010	**0.0017**	--	**0.015**	< 0.0010	< 0.00010	**0.0028**	**0.0033**	--	**1.7**	< 0.00050	**0.58**	< 0.00020	**0.059**	**0.0022**	< 0.00010	< 0.6
MW-65A	Downgradient	Alluvial	4/11/2019	**11**	**730**	**3,600**	**1.9**	**7.2 J**	**2,700**	**9,400**	--	**0.0018**	--	**0.016**	--	**0.00011**	**0.010**	**0.0036**	--	**1.9**	< 0.0005	**0.52**	--	**0.067**	**0.0024**	--	--
MW-65A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-65A	Downgradient	Alluvial	11/26/2019	**12**	**760**	**3,500**	**1.7**	**7.1 J**	**2,900**	**9,300**	--	< 0.0020	--	**0.017**	--	**0.00014**	**0.015**	**0.0032**	--	**1.7**	< 0.00050	**0.52**	--	**0.080**	< 0.0020	--	--
MW-65A	Downgradient	Alluvial	5/5/2020	**11**	**750**	**3,600**	**1.8**	**7.4 J**	**2,900**	**9,400**	--	**0.0016**	**0.0017**	**0.015**	< 0.001	**0.00010**	**0.0052**	**0.0033**	**0.0026**	**1.8**	< 0.0005	**0.67**	--	**0.065**	**0.0017**	--	< 0.8
MW-65A	Downgradient	Alluvial	10/25/2020	**13**	**780**	**4,200**	**2.6**	**7.0 J**	**3,200**	**10,000**	< 0.002 U	**0.0064**	**0.0049**	**0.024**	< 0.001	< 0.0002	**0.019**	**0.0039**	**0.0032**	**2.6**	< 0.001	**0.57**	< 0.0002	**0.22**	**0.0049**	< 0.0002 U	< 0.8
MW-65A	Downgradient	Alluvial	4/14/2021	**11**	**800**	**3,500**	**2.4**	**7.3 J**	**3,100**	**8,700**	< 0.002	**0.0038**	**0.0047**	**0.017**	< 0.001	< 0.0002	**0.016**	**0.0032**	**0.0030**	**2.4**	< 0.001	**0.54**	< 0.0002	**0.076**	**0.0016**	< 0.0002	<0.7
MW-65A	Downgradient	Alluvial	10/22/2021	**12**	**770**	**3,700**	**2.4**	**7 J**	**3,100**	**9,200 J**	**0.000085 J**	< 0.0024 U	**0.0026**	**0.022**	< 0.001	**0.000083 J**	**0.0041**	**0.0025**	**0.0023**	**2.4**	**0.00037 J**	**0.59**	< 0.0002	**0.12**	**0.00081**	**0.000021 J**	**1.3**
MW-66A	Downgradient	Alluvial	12/5/2018	**1.2**	**830**	**4,600**	**0.93 J,UJ**	**8.1 J**	**2,900**	**11,000**	< 0.0010	**0.0034**	--	**0.095**	--	**0.00029**	**0.0098**	**0.0026**	--	**0.93 J,UJ**	**0.0040**	**0.51**	< 0.00020	**0.016**	**0.031**	**0.00015**	< 0.6
MW-66A	Downgradient	Alluvial	2/14/2019	--	--	--	**1.1**	--	--	--	< 0.0010	**0.0021**	--	**0.016**	< 0.0010	**0.00027**	< 0.0010	**0.0013**	--	**1.1**	< 0.00050	**0.55**	< 0.00020	**0.014**	**0.027**	**0.00012**	< 0.6
MW-66A	Downgradient	Alluvial	4/11/2019	**1.5**	**790**	**4,300**	**1.4**	**7.2 J**	**2,800**	**11,000**	--	**0.0025**	--	**0.016**	--	**0.00028**	**0.21**	**0.0017**	--	**1.4**	< 0.0005	**0.50**	--	**0.039**	**0.027**	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-66A	Downgradient	Alluvial	11/26/2019	**1.5**	**780**	**4,600**	**1.1**	**7.2 J**	**3,100**	**11,000**	--	< 0.0020	--	**0.016 J**	--	**0.00028**	**0.0026 J**	< 0.0020	--	**1.1**	< 0.00050	**0.48**	--	**0.015**	**0.026 J**	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
MW-66A	Downgradient	Alluvial	11/26/2019	**1.5**	**780**	**4,600**	**1.1**	**7.2 J**	**3,100**	**11,000**	--	**0.0039**	--	**0.022 J**	--	**0.00038**	**0.016 J**	< 0.0020	--	**1.1**	**0.00061**	**0.48**	--	**0.016**	**0.060 J**	--	--
MW-66A	Downgradient	Alluvial	5/5/2020	**1.6**	**800**	**4,600**	**1.1**	**7.3 J**	**3,100**	**11,000**	--	**0.0017**	**0.0017**	**0.015**	< 0.001	**0.00027**	**0.016**	**0.0014**	**0.0010**	**1.1**	< 0.0005	**0.68**	--	**0.014**	**0.027**	--	< 0.8
MW-66A	Downgradient	Alluvial	10/25/2020	**1.5**	**750**	**4,400**	**1.4**	**7.1 J**	**3,000**	**10,000**	< 0.002 U	**0.0019 J**	**0.0051 J**	**0.013**	< 0.001	**0.00048**	**0.024**	**0.0018**	**0.0018**	**1.4**	< 0.001	**0.49**	< 0.0002	**0.017**	**0.024**	**0.00013**	< 0.8
MW-66A	Downgradient	Alluvial	4/15/2021	**1.7**	**820**	**4,400**	**1.6**	**7.3 J**	**3,100**	**10,000**	< 0.002	**0.0030**	**0.0040**	**0.023**	< 0.001	< 0.0002	**0.027**	**0.0017**	**0.0014**	**1.6**	< 0.001	**0.54**	< 0.0002	**0.017**	**0.017**	< 0.0002	<0.7
MW-66A	Downgradient	Alluvial	10/24/2021	**1.7**	**800**	**4,400**	**1.3**	**7.4 J**	**3,000**	**11,000 J**	**0.000094 J**	< 0.00097 U	**0.0012**	**0.018**	< 0.001	**0.0003**	**0.012**	**0.0015**	**0.0012**	**1.3**	**0.00029 J**	**0.51**	< 0.0002	**0.016**	**0.014**	**0.00013**	< 0.6
MW-67A	Downgradient	Alluvial	12/5/2018	**0.38**	**1,500**	**5,000**	**1.0 J,UJ**	**6.9 J**	**1,500**	**9,300**	< 0.0010	**0.018**	--	**0.058**	--	< 0.00010	**0.0082**	**0.0058**	--	**1.0 J,UJ**	**0.0019**	< 0.20	< 0.00020	**0.0061**	**0.0011**	< 0.00010	< 0.6
MW-67A	Downgradient	Alluvial	2/14/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.016**	--	**0.022**	< 0.0010	< 0.00010	**0.0012**	**0.0037**	--	< 0.80	< 0.00050	< 0.20	< 0.00020	**0.0050**	**0.00066**	< 0.00010	**1.4**
MW-67A	Downgradient	Alluvial	4/11/2019	**0.37**	**1,500**	**4,900**	< 0.80	**6.9 J**	**1,500**	**11,000**	--	**0.016**	--	**0.023**	--	< 0.0001	< 0.001	**0.0041**	--	< 0.80	< 0.0005	< 0.20	--	**0.0052**	**0.00075**	--	--
MW-67A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.9**
MW-67A	Downgradient	Alluvial	11/26/2019	**0.38**	**1,500**	**5,000**	< 0.80	**6.8 J**	**1,500**	**11,000**	--	**0.015**	--	**0.026**	--	< 0.00010	< 0.0040	**0.0042**	--	< 0.80	< 0.00050	< 0.20	--	**0.0052**	< 0.0020	--	--
MW-67A	Downgradient	Alluvial	5/5/2020	**0.36**	**1,700**	**5,400**	**0.95**	**7.1 J**	**1,500**	**11,000**	--	**0.017**	**0.015**	**0.028**	< 0.001	< 0.0001	< 0.002	**0.0045**	**0.0038**	**0.95**	< 0.0005	**0.25**	--	**0.0043**	< 0.001	--	< 0.8
MW-67A	Downgradient	Alluvial	10/25/2020	**0.33**	**1,600**	**5,500**	**0.47**	**7.5 J**	**1,500**	**12,000**	< 0.002 U	**0.018**	**0.020**	**0.024**	< 0.001	< 0.0002	< 0.002	**0.0040**	**0.0059**	**0.47**	< 0.001	**0.18**	< 0.0002	**0.0047**	< 0.001 U	< 0.0002 U	< 0.8
MW-67A	Downgradient	Alluvial	4/14/2021	**0.34**	**1,700**	**5,700**	**0.61 J**	**7.0 J**	**1,600**	**11,000**	< 0.002	**0.018**	**0.021**	**0.026**	< 0.001	< 0.0002	< 0.002	**0.0040**	**0.0043**	**0.61 J**	< 0.001	**0.18**	< 0.0002	**0.0050**	**0.001**	< 0.0002	<0.7
MW-67A	Downgradient	Alluvial	10/22/2021	**0.34**	**1,700**	**5,700**	**0.90**	**7.1 J**	**1,500**	**10,000 J**	**0.000051 J**	**0.015**	**0.018**	**0.025**	< 0.001	< 0.0001	**0.00051 J**	**0.0038**	**0.0042**	**0.90**	< 0.0005	**0.17**	< 0.0002	**0.0051**	**0.00043 J**	**0.000036 J**	< 0.6

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-123	Downgradient	Moqui	12/3/2015	36	790	6,100	3.7	7.55	3,400	13,000	< 0.0025	0.0027	--	0.011	< 0.0010	< 0.00010	0.00099	0.0023	--	3.7	0.00094	0.60	< 0.00020	0.35	0.0017	0.00026	0.7
W-123	Downgradient	Moqui	3/8/2016	34	800	6,100	3.6	7.47	3,300	14,000	< 0.015	< 0.0049	--	0.011	< 0.0010	< 0.00046	< 0.0087	0.0025 J	--	3.6	< 0.0044	0.58	< 0.00020	0.34	0.0023 J	0.00030 J	< 0.4
W-123	Downgradient	Moqui	5/6/2016	35	830	6,200	3.6	--	3,300	14,000	0.00026	0.0021	--	0.012	< 0.0010	< 0.00010	0.0010	0.0019	--	3.6	< 0.00050	0.60	< 0.00020	0.33	0.0024	< 0.00010	< 0.8
W-123	Downgradient	Moqui	8/25/2016	36	800	5,900	4.1	7.6	3,600	14,000	0.00055	0.0025	--	0.0097	< 0.0010	< 0.00010	0.0018	0.0020	--	4.1	< 0.00050	0.62	< 0.00020	0.36	0.0032	< 0.00010	0.5
W-123	Downgradient	Moqui	9/22/2016	37	810	6,000	3.7	7.7	3,600	15,000	< 0.0010	0.0019	--	0.0096	< 0.0010	< 0.00020	0.041	0.0020	--	3.7	< 0.00020	0.64	< 0.00020	0.34	0.0033	< 0.00020	0.6
W-123	Downgradient	Moqui	2/20/2017	37	860	6,200	< 8.0	7.6	3,400	13,000	< 0.0010	0.0017	--	0.0094	< 0.0010	< 0.00010	0.13	0.0014	--	< 8.0	< 0.00050	0.66	< 0.00020	0.34	0.0031	< 0.00010	< 0.6
W-123	Downgradient	Moqui	4/13/2017	35	880	6,600	4.0	8.1	3,600	14,000	< 0.0010	0.0020	--	0.010	< 0.0010	< 0.00010	0.045	0.0014	--	4.0	< 0.00050	0.59	< 0.00020	0.36	0.0034	< 0.00010	< 0.6
W-123	Downgradient	Moqui	4/26/2017	34	780	6,300	3.5	7.7	3,600	14,000	< 0.0010	0.0017	--	0.010	< 0.0010	< 0.00010	0.016	0.0014	--	3.5	< 0.0010	0.64	< 0.00020	0.35	0.0033	< 0.00020	< 0.6
W-123	Downgradient	Moqui	5/22/2017	35	850	6,300	3.8	7.6	3,500	14,000	< 0.0010	0.0014	--	0.0095	< 0.0010	< 0.00010	0.0099	0.0012	--	3.8	< 0.00050	0.65	< 0.00020	0.30	0.0032	< 0.00010	< 0.6
W-123	Downgradient	Moqui	5/24/2017	34	810	6,200	3.8	7.6	3,500	14,000	< 0.0010	0.0020	--	0.010	< 0.0010	< 0.00010	0.018	0.0015	--	3.8	< 0.0020	0.68	< 0.00020	0.35	0.0038	< 0.00040	< 0.6
W-123	Downgradient	Moqui	6/30/2017	35	810	6,700	3.8	7.5	3,700	14,000	< 0.0010	0.0020	--	0.011	< 0.0010	< 0.00010	0.0080	0.0013	--	3.8	< 0.00050	0.63	< 0.00020	0.33	0.0046	< 0.00010	< 0.7
W-123	Downgradient	Moqui	7/27/2017	36	860	6,900	3.7	7.6	3,800	14,000	< 0.0020	0.0015	--	0.010	< 0.0010	< 0.00020	0.046	0.0017	--	3.7	< 0.0010	0.66	< 0.00020	0.33	0.0043	< 0.00020	< 0.6
W-123	Downgradient	Moqui	9/7/2017	36	870	6,700	3.7	7.5	3,600	14,000	< 0.0040	< 0.0020	--	0.011	< 0.0010	< 0.00040	0.097	0.0022	--	3.7	< 0.0020	0.70	< 0.00020	0.36	0.0045	< 0.00040	< 0.7
W-123	Downgradient	Moqui	12/8/2017	37	890	6,700	4.1	7.6	3,600	14,000	--	--	--	--	--	--	--	--	--	4.1	--	--	--	--	--	--	--
W-123	Downgradient	Moqui	2/14/2018	--	--	--	4.2	--	--	--	< 0.0020	0.0018	--	0.010	< 0.0010	< 0.00020	0.12	0.0021	--	4.2	< 0.0010	0.63	< 0.00020	0.37	0.0035	< 0.00020	0.5
W-123	Downgradient	Moqui	5/21/2018	35	790	6,400	4.3	7.5	3,600	15,000	--	0.0030	--	0.011	--	< 0.00020	0.084	< 0.0020	--	4.3	< 0.0010	0.63	--	0.38	0.0058	--	0.8
W-123	Downgradient	Moqui	10/24/2018	36	850	6,700	3.9	7.7	3,600	15,000	--	0.0027	--	0.0092	--	< 0.00010	0.045	0.0015	--	3.9	< 0.00050	0.65	--	0.36	0.0056	--	< 0.7
W-123	Downgradient	Moqui	10/24/2018	37	850	6,600	4.0	7.7	3,600	14,000	--	0.0026	--	0.0092	--	< 0.00010	0.043	0.0016	--	4.0	< 0.00050	0.65	--	0.37	0.0059	--	< 0.6
W-123	Downgradient	Moqui	2/13/2019	--	--	--	3.7	--	--	--	< 0.0010	0.0024	--	0.010	< 0.0010	< 0.00010	0.12	0.0018	--	3.7	< 0.00050	0.75	< 0.00020	0.37	0.0063	< 0.00010	< 0.6
W-123	Downgradient	Moqui	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-123	Downgradient	Moqui	4/11/2019	37	790	6,200	3.9	7.6 J	3,400	14,000	--	0.0019	--	0.011	--	< 0.0001	0.097	0.0019	--	3.9	< 0.0005	0.67	--	0.41	0.0053	--	< 0.7
W-123	Downgradient	Moqui	8/1/2019	3.2	600	2,200	2.3	7.3 J	3,000	8,500	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--
W-123	Downgradient	Moqui	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-123	Downgradient	Moqui	11/25/2019	35	780	6,600	3.6	7.6 J	3,700	15,000	--	0.0023	--	0.0097	--	< 0.0010	0.14	0.0026	--	3.6	< 0.00050	0.66	--	0.41	0.0052	--	--
W-123	Downgradient	Moqui	5/6/2020	37	780	5,700	4.8	7.5 J	3,400	13,000	--	0.0012	0.0015	0.011	< 0.001	< 0.0001	0.076	0.0030	0.0023	4.8	< 0.0005	0.83	--	0.30	0.0027	--	< 0.8
W-123	Downgradient	Moqui	10/26/2020	37	860	6,400	3.6	6.8 J	3,800	14,000	0.0042	0.0056	0.0038	0.021	< 0.001	0.00024	0.037	0.0043	0.0021	3.6	0.0015	0.62	< 0.0002	0.66	0.0081	0.00039	< 0.8
W-123	Downgradient	Moqui	4/15/2021	36	870	6,000	4.7	7.7 J	3,600	14,000	0.0012 J	0.0046	0.0045	0.013	< 0.001	< 0.0002	0.23	0.0018	0.0013	4.7	0.0053	0.61	< 0.0002	0.34	0.0029	< 0.0002	<0.7
W-123R	Downgradient	Alluvial	6/5/2021	31	750	5,000	5.0	--	3,100	12,000 J	< 0.001 U	0.0048	--	0.016	< 0.001	< 0.0001 U	0.00097 J	0.0036	--	5.0	0.0012	0.48	--	0.35	0.0015	0.00024	--
W-123R	Downgradient	Alluvial	6/15/2021	36	750	5,300	4.1	--	3,500	12,000	--	0.0048	--	--	--	--	--	0.0037	--	4.1	--	0.52	--	0.24	--	--	--
W-123R	Downgradient	Alluvial	8/3/2021	39	730	5,400	5.2	7.8 J	3,500	12,000	< 0.001 U	0.0058	0.0061	0.012	< 0.001	0.000077 J	0.001	0.0036	0.0034	5.2	< 0.0005	0.52	< 0.0002	0.24	0.0010	0.00022	< 0.7
W-123R	Downgradient	Alluvial	10/23/2021	38	720	6,300	5.6	7.6 J	4,200	11,000 J	0.0002 J	0.0036	0.0047	0.011	< 0.001	0.000057 J	0.0015	0.0035	0.0039	5.6	0.00028 J	0.51	< 0.0002	0.22	0.00071	0.00026	< 0.6

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-125	Supplementary	Coconino Sandstone	12/2/2015	0.17	130	820	0.57	7.24	320	1,900	< 0.0025	0.018	--	0.024	< 0.0010	< 0.00010	0.0014	0.0036	--	0.57	0.00066	< 0.20	< 0.00020	0.0018	0.00013	< 0.00010	5.4
W-125	Supplementary	Coconino Sandstone	3/9/2016	0.15	120	780	0.48	7.63	330	1,800	< 0.015	< 0.0049	--	0.018	< 0.0010	< 0.00046	< 0.0087	< 0.0013	--	0.48	< 0.0044	< 0.20	< 0.00020	< 0.0040	< 0.0015	0.00040 J	2.0
W-125	Supplementary	Coconino Sandstone	5/22/2016	0.16	120	810	0.53	--	320	1,900	0.00031	0.0087	--	0.019	< 0.0010	< 0.00010	< 0.00050	0.0016	--	0.53	< 0.00050	< 0.20	< 0.00020	0.0017	< 0.00050	< 0.00010	2.6
W-125	Supplementary	Coconino Sandstone	8/26/2016	0.16	130	820	0.55	7.4	320	1,900	0.00018	0.0081	--	0.028	< 0.0010	< 0.00010	0.00060	0.0043	--	0.55	< 0.00050	< 0.20	< 0.00020	0.037	< 0.00050	< 0.00010	5.5
W-125	Supplementary	Coconino Sandstone	9/23/2016	0.17	120	760	0.57	7.6	310	1,900	< 0.00050	0.0046	--	0.024	< 0.0010	< 0.00010	< 0.00050	0.0022	--	0.57	< 0.00010	< 0.20	< 0.00020	0.014	0.00069	< 0.00010	1.2
W-125	Supplementary	Coconino Sandstone	2/20/2017	0.17	130	760	< 4.0	7.5	320	1,800	< 0.0010	0.0043	--	0.020	< 0.0010	< 0.00010	< 0.00050	0.0012	--	< 4.0	< 0.00050	< 0.20	< 0.00020	0.0024	< 0.00050	< 0.00010	3.0
W-125	Supplementary	Coconino Sandstone	4/13/2017	0.16	130	810	0.52	7.9	320	1,900	< 0.0010	0.0039	--	0.020	< 0.0010	< 0.00010	< 0.00050	0.00097	--	0.52	< 0.00050	< 0.20	< 0.00020	0.0025	< 0.00050	< 0.00010	2.5
W-125	Supplementary	Coconino Sandstone	4/26/2017	0.17	120	760	0.54	7.7	320	1,900	< 0.0010	0.0035	--	0.020	< 0.0010	< 0.00010	< 0.00050	0.00069	--	0.54	< 0.00050	< 0.20	< 0.00020	0.0026	< 0.00050	< 0.00010	3.5
W-125	Supplementary	Coconino Sandstone	5/22/2017	0.17	130	790	0.53	7.7	320	1,800	< 0.0010	0.0024	--	0.017	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	0.53	< 0.00050	< 0.20	< 0.00020	0.0020	< 0.00050	< 0.00010	1.3
W-125	Supplementary	Coconino Sandstone	5/22/2017	0.17	130	790	0.52	7.8	320	1,800	< 0.0010	0.0026	--	0.018	< 0.0010	< 0.00010	< 0.00050	< 0.00050	--	0.52	< 0.00050	< 0.20	< 0.00020	0.0022	< 0.00050	< 0.00010	2.7
W-125	Supplementary	Coconino Sandstone	5/24/2017	0.17	130	800	0.55	7.7	330	1,800	< 0.0040	0.0022	--	0.020	< 0.0010	< 0.00040	< 0.0020	< 0.0020	--	0.55	< 0.0020	< 0.20	< 0.00020	0.0031	< 0.0020	< 0.00040	3.1
W-125	Supplementary	Coconino Sandstone	6/29/2017	0.15	120	800	0.56	7.7	340	1,800	< 0.0010	0.0028	--	0.020	< 0.0010	< 0.00010	< 0.00050	0.00063	--	0.56	< 0.00050	< 0.20	< 0.00020	0.0024	< 0.00050	< 0.00010	2.6
W-125	Supplementary	Coconino Sandstone	7/27/2017	0.18	130	780	< 0.80	7.6	330	1,900	< 0.0020	0.0030	--	0.021	< 0.0010	< 0.00020	< 0.0010	< 0.0010	--	< 0.80	< 0.0010	< 0.20	< 0.00020	0.0024	< 0.0010	< 0.00020	2.8
W-125	Supplementary	Coconino Sandstone	9/6/2017	0.17	130	800	0.54	7.6	330	1,800	< 0.0040	0.0026	--	0.021	< 0.0010	< 0.00040	< 0.0040	< 0.0020	--	0.54	< 0.0020	< 0.20	< 0.00020	0.0026	< 0.0020	< 0.00040	1.2
W-125	Supplementary	Coconino Sandstone	9/6/2017	0.17	130	800	0.54	7.6	330	1,900	< 0.0040	0.0027	--	0.020	< 0.0010	< 0.00040	< 0.0040	< 0.0020	--	0.54	< 0.0020	< 0.20	< 0.00020	0.0027	< 0.0020	< 0.00040	2.8
W-125	Supplementary	Coconino Sandstone	5/6/2020	--	130	680	< 0.8	--	320	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-125	Supplementary	Coconino Sandstone	10/24/2020	0.16	120	3,000	0.53	7.5 J	1,200	1,800	< 0.002	0.0073	--	0.022	< 0.001 U	< 0.0002	< 0.002	0.0012	--	0.53	< 0.001	0.029	< 0.0002	0.0026	< 0.001 U	< 0.0002	3.1
W-125	Supplementary	Coconino Sandstone	4/15/2021	0.18	130	730	0.55 J	7.7 J	350 J	1,700	< 0.002	0.0043	--	0.022	< 0.001	< 0.0002	< 0.002	0.00054 J	--	0.55 J	< 0.001	0.029	< 0.0002	0.0031	0.00019 J	< 0.0002	3.8
W-125	Supplementary	Coconino Sandstone	10/23/2021	0.18	120	750	0.56 J	7.7 J	310	1,700 J	0.000066 J	0.0051 J	--	0.022	< 0.001	< 0.0001	< 0.001	0.0012	--	0.56 J	< 0.0005	0.026	< 0.0002	0.0028	0.00011 J	0.000015 J	2.3 J
W-125	Supplementary	Coconino Sandstone	10/23/2021	0.16	120	760	0.53 J	7.7 J	380	1600 J	0.000096 J	0.0038 J	--	0.022	< 0.001	< 0.0001	< 0.001	0.00072	--	0.53 J	< 0.0005	0.026	< 0.0002	0.0025	< 0.0005	< 0.0001	3.9 J

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																				
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-126	Downgradient	Moqui	1/3/2018	--	--	6,100	3.7	--	3,800	--	--	--	--	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	12/5/2018	43	760	7,400	3.5 J,UJ	7.4 J	4,200	17,000	< 0.0010	0.0027 J	--	0.021 J	--	< 0.00010	0.0026 J	0.0049 J	--	3.5 J,UJ	0.00072	0.78 J	< 0.00020	0.20	0.0015 J	0.00015	< 0.6
W-126	Downgradient	Moqui	4/11/2019	46	740	6,700	3.7	7.4 J	3,900	16,000	--	0.0017	--	0.011	--	< 0.0001	0.0085 J	0.0042	--	3.7	< 0.0005	0.73	--	0.22	0.0020	--	--
W-126	Downgradient	Moqui	5/15/2019	--	--	--	4.0	--	--	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	6/24/2019	45	--	7,000	3.8	7.4	3,800	17,000	--	--	--	--	--	< 0.00010	0.012	--	--	3.8	< 0.00050	--	--	--	--	0.00012	--
W-126	Downgradient	Moqui	7/11/2019	--	--	7,200	3.7	--	3,900	--	--	--	--	--	--	--	--	--	--	3.7	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	8/19/2019	--	--	7,200	2.8	--	4,200	--	--	--	--	--	--	--	--	--	--	2.8	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/14/2019	--	--	7,200	4.1	--	4,200	--	--	--	--	--	--	--	--	--	--	4.1	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/14/2019	--	--	7,000	4.0	--	4,200	--	--	--	--	--	--	--	--	--	--	4.0	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-126	Downgradient	Moqui	11/26/2019	48	720	7,000	3.6	7.3 J	4,200	15,000	--	0.0023	--	0.010	--	< 0.00040	0.019	0.0040	--	3.6	< 0.00050	0.70	--	0.21	< 0.0020	--	--
W-126	Downgradient	Moqui	5/5/2020	50	780	6,900	4.1	7.5 J	4,100	16,000	--	0.0014	0.0023	0.011	< 0.001	< 0.0002	0.0053	0.0038	0.0036	4.1	< 0.0005	1.1	--	0.22	0.0015	--	< 0.8
W-126	Downgradient	Moqui	10/25/2020	43	720	6,900	4.2	7.5 J	4,500	15,000	< 0.004 U	0.002	0.0032	0.018 J	< 0.001	< 0.0004	0.011	0.0083 J	0.0041	4.2	< 0.002	0.74	< 0.0002	0.22	0.0049	0.00026	< 0.8
W-126	Downgradient	Moqui	4/15/2021	41	790	6,700	3.9	7.6 J	4,400	16,000	< 0.002	0.0038	0.0051	0.0099	< 0.001	< 0.0002	0.009	0.0040	0.0039	3.9	< 0.001	0.72	< 0.0002	0.25	0.0027	< 0.0002	<0.7
W-126R	Downgradient	Alluvial	6/4/2021	40	750	6,600	5.0	--	3,800	16,000 J	< 0.001 U	0.0023	--	0.0091	< 0.001	< 0.0001 U	0.0011	0.0038	--	5.0	< 0.001	0.64	--	0.27	0.0018	< 0.0002 U	--
W-126R	Downgradient	Alluvial	6/15/2021	42	760	6,400	3.6	--	3,800	14,000	--	0.0024	--	--	--	--	--	0.0045	--	3.6	--	0.66	--	0.26	--	--	--
W-126R	Downgradient	Alluvial	8/3/2021	44	730	6,300	4.6	7.6 J	4,000	14,000	< 0.001 U	0.0037	0.0039	0.011	< 0.001	0.000064 J	0.024	0.0042	0.0042	4.6	< 0.0005	0.66	< 0.0002	0.31	0.0015	< 0.0001 U	0.4 J
W-126R	Downgradient	Alluvial	10/23/2021	46	730	7,400	5.6	7.5 J	5,100	12,000 J	0.00014 J	< 0.00079 U	0.0025	0.0094	< 0.001	0.000070 J	0.010	0.0040	0.0041	5.6	< 0.0005	0.62	< 0.0002	0.31	0.0012	0.00013	< 0.6

Groundwater Quality Data for FAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			FAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			FAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
EW-02	Extraction Well	Alluvial	1/8/2021	**--**	**730**	**4,000**	**1.6**	**--**	**3,300**	**11,000**	**--**	**0.0034**	**--**	**--**	**--**	**--**	**--**	**0.0011**	**--**	**1.6**	**--**	**0.62**	**--**	**0.038**	**--**	**--**	**--**
EW-04	Extraction Well	Alluvial	1/5/2021	**--**	**770**	**4,900**	**3.9**	**--**	**3,000**	**12,000**	**--**	**0.0043**	**--**	**--**	**--**	**--**	**--**	**0.0024**	**--**	**3.9**	**--**	**0.43**	**--**	**0.48**	**--**	**--**	**--**
GSX-1R	Extraction Well	Alluvial	6/28/2021	**16**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
GSX-1R	Extraction Well	Alluvial	6/29/2021	**15**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
GSX-1R	Extraction Well	Alluvial	6/29/2021	**15**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**2.5**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
GSX-1R	Extraction Well	Alluvial	8/3/2021	**7.5**	**750**	**4,400**	**2.8**	**7.6 J**	**3,000**	**9,700**	< 0.001 U	**0.0057**	**--**	**0.012**	< 0.001	**0.00011**	**0.00060 J**	**0.0020**	**--**	**2.8**	< 0.0005	**0.52**	< 0.0002	**0.61**	**0.0015**	< 0.0001	< 0.6
Geronimo C	Supplementary	Seepage	4/15/2021	**68**	**780**	**8,800**	**7.2**	**7.1 J**	**5,700**	**20,000**	**0.00030 J**	**0.080**	**--**	**0.0066**	< 0.001	< 0.0002	**0.010**	< 0.002	**--**	**7.2**	**0.023**	**0.86**	< 0.0002	**0.039**	< 0.002	< 0.0002	<0.8
Geronimo D	Supplementary	Seepage	4/15/2021	**58**	**750**	**7,700**	**7.1**	**7.5 J**	**5,200**	**17,000**	**0.00015 J**	**0.0076**	**--**	**0.0086**	< 0.001	< 0.0002	**0.0038**	**0.0013**	**--**	**7.1**	**0.019**	**0.73**	< 0.0002	**0.038**	**0.00088 J**	< 0.0002	<0.8
Hunt B	Supplementary	Seepage	4/15/2021	**29**	**760**	**5,200**	**3.9**	**7.7 J**	**3,300**	**11,000**	< 0.002 U	**0.0029**	**--**	**0.010 J**	< 0.001	< 0.0002	**0.0012 J**	**0.0042**	**--**	**3.9**	< 0.001	**0.49**	< 0.0002	**0.44**	**0.0029**	< 0.0002	<0.8
FAP	Supplementary	Surface Pond	10/31/2021	**680**	**680**	**54,000**	**290**	**5.8 J**	**52,000**	**160,000**	**0.066**	**0.63**	**0.62**	**0.14**	**0.013 J**	**0.0009 J**	**0.0099 J**	**0.019**	**0.020**	**290**	< 0.005	**7.9**	< 0.0002	**0.77**	**0.071**	**0.00051 J**	**14.1**

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	2/20/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**17**	**0.8**	< 0.6	--	**3,600**	--
M-64A	Background	Alluvial	2/20/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**17**	< 0.4	< 0.6	--	**3,600**	--
M-64A	Background	Alluvial	4/12/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	**0.8**	--	**3,700**	--
M-64A	Background	Alluvial	4/12/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.5	< 0.6	--	**3,800**	--
M-64A	Background	Alluvial	4/25/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	**0.8**	**0.8**	--	**3,600**	--
M-64A	Background	Alluvial	5/18/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**14**	< 0.5	**1.3**	--	**3,600**	--
M-64A	Background	Alluvial	5/24/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**13**	< 0.3	**1.1**	--	**3,600**	--
M-64A	Background	Alluvial	5/24/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	**0.4**	< 0.6	--	**3,700**	--
M-64A	Background	Alluvial	6/30/2017	**450**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.7	--	**3,700**	--
M-64A	Background	Alluvial	7/27/2017	**470**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.7	--	**3,600**	--
M-64A	Background	Alluvial	7/27/2017	**470**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**15**	< 0.4	< 0.7	--	**3,700**	--
M-64A	Background	Alluvial	9/7/2017	**460**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.5	< 0.7	--	**3,700**	--
M-64A	Background	Alluvial	12/8/2017	**540**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	--	--	--	**3,000**	--
M-64A	Background	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.3**	**0.7**	--	--	--
M-64A	Background	Alluvial	2/15/2018	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**200**	--	--	--	--	--	--	--	--	**13**	< 0.5	< 0.7	--	**4,000**	--
M-64A	Background	Alluvial	5/19/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
M-64A	Background	Alluvial	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/24/2019	**470**	< 6	< 6	--	--	**0.75**	**5.5**	**5.5**	**4.8**	**220**	**2.3**	**1.9**	--	--	< 0.5	--	--	--	**19**	< 0.4	< 0.8	--	**3,800**	**5.5**
M-64A	Background	Alluvial	5/6/2020	**490**	< 6	< 6	--	--	**0.73**	**5.0**	**5.5**	**5.0**	**230**	**2.2**	**1.9**	--	--	< 0.5	--	--	--	**20**	< 0.4	< 0.8	--	**3,400**	**5.1**
M-64A	Background	Alluvial	5/6/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.261**	**0.704**	--	--	--
M-64A	Background	Alluvial	10/24/2020	--	--	--	--	--	**0.77**	**4.8**	**5.5**	**5.5**	--	**2**	**2.2**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**4.5**
M-64A	Background	Alluvial	4/15/2021	--	--	--	--	--	**0.88**	**4.6 J**	**6.2**	**5.9**	**250**	**2.4**	**2.3**	--	--	< 0.25	--	--	--	**18**	<0.4	<0.7	--	**3,800**	--
M-64A	Background	Alluvial	10/22/2021	--	--	--	--	--	**0.77**	**4.5 J**	**6.1**	**6.6**	--	**2.3**	**2.5**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-43A	Supplementary	Alluvial	12/21/2016	**250**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**10**	--	--	--	**1,100**	--
M-43A	Supplementary	Alluvial	12/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-43A	Supplementary	Alluvial	4/14/2021	--	--	--	--	--	**0.43**	**1.2**	**3.2**	**2.7**	**230**	**3.1**	**2.9**	--	--	< 0.25	--	--	--	**11**	**0.6**	<0.7	--	**1,100**	--
M-43A	Supplementary	Alluvial	10/22/2021	--	--	--	--	--	**0.35 J**	< 1.4 U	**2.6**	**2.6**	--	**2.7**	**2.8**	--	--	< 0.25	--	--	--	--	< 0.5	< 0.6	--	--	--
M-44D	Supplementary	Coconino Sandstone	12/2/2015	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**4.4**	**2.8**	**1.0**	**6.2**	**670**	--
M-44D	Supplementary	Coconino Sandstone	3/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.8**	**1.3**	--	--	--
M-44D	Supplementary	Coconino Sandstone	5/22/2016	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**47**	--	--	--	--	--	--	--	--	**4.1**	**2.7**	**1.2**	**5.6**	**670**	--
M-44D	Supplementary	Coconino Sandstone	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.3**	**2.3**	--	--	--
M-44D	Supplementary	Coconino Sandstone	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.3**	**2.1**	--	--	--
M-44D	Supplementary	Coconino Sandstone	2/20/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**4.6**	**2.6**	**1.0**	--	**680**	--
M-44D	Supplementary	Coconino Sandstone	4/13/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**47**	--	--	--	--	--	--	--	--	**4.3**	**2.0**	**2.2**	--	**640**	--
M-44D	Supplementary	Coconino Sandstone	4/24/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**4.5**	**2.0**	< 0.6	--	**680**	--
M-44D	Supplementary	Coconino Sandstone	4/24/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**4.5**	**1.7**	**0.7**	--	**670**	--
M-44D	Supplementary	Coconino Sandstone	5/22/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**49**	--	--	--	--	--	--	--	--	**4.5**	**2.5**	**1.1**	--	**680**	--
M-44D	Supplementary	Coconino Sandstone	5/25/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**50**	--	--	--	--	--	--	--	--	**4.7**	**2.1**	**2.6**	--	**700**	--
M-44D	Supplementary	Coconino Sandstone	6/29/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**47**	--	--	--	--	--	--	--	--	**4.1**	**3.1**	**1.5**	--	**640**	--
M-44D	Supplementary	Coconino Sandstone	7/29/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**50**	--	--	--	--	--	--	--	--	**4.5**	**2.2**	**1.0**	--	**670**	--
M-44D	Supplementary	Coconino Sandstone	9/5/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**49**	--	--	--	--	--	--	--	--	**4.5**	**2.9**	**1.4**	--	**680**	--
M-44D	Supplementary	Coconino Sandstone	5/7/2020	**100**	< 6	< 6	--	--	--	--	--	--	**49**	--	--	--	--	--	--	--	--	**4.8**	--	--	--	**630**	--
M-44D	Supplementary	Coconino Sandstone	10/24/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	**1.5**	--	--	--
M-44D	Supplementary	Coconino Sandstone	4/16/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.9**	**0.9**	--	--	--
M-44D	Supplementary	Coconino Sandstone	4/16/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.6**	**1.5**	--	--	--
M-44D	Supplementary	Coconino Sandstone	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**3.4 J**	**1.6**	--	--	--
M-44D	Supplementary	Coconino Sandstone	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.5 J**	**1.8**	--	--	--
M-45A	Supplementary	Alluvial	09/17/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
M-45A	Supplementary	Alluvial	09/17/2013	**380**	< 5.0	< 5.0	--	--	--	--	--	--	**157**	--	--	< 0.0050	--	--	--	--	--	**14.3**	--	--	--	**464**	--
M-45A	Supplementary	Alluvial	11/21/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
M-45A	Supplementary	Alluvial	11/21/2013	**380**	< 5.0	< 5.0	--	--	--	--	--	--	**162**	--	--	< 0.0050	--	--	--	--	--	**14.3**	--	--	--	**620**	--
M-45A	Supplementary	Alluvial	03/26/2014	**430**	< 5.0	< 5.0	--	--	--	--	--	--	**152**	--	--	< 0.005	--	--	--	--	--	**15**	--	--	--	**682**	--
M-45A	Supplementary	Alluvial	06/10/2014	**432**	< 5.0	--	--	--	--	--	--	--	**159**	--	--	< 0.01	< 0.8	--	< 0.8	--	--	**18.1**	--	--	--	**637**	--
M-45A	Supplementary	Alluvial	06/16/2015	**384**	< 5.0	< 5.0	--	--	--	--	--	--	**157**	--	--	< 0.005	< 0.10	--	< 0.50	--	--	**14.1**	--	--	--	**761**	--
M-45A	Supplementary	Alluvial	12/21/2016	**260**	< 6.0	< 6.0	--	--	--	--	--	--	**140**	--	--	--	--	--	--	--	--	**12**	--	--	--	**570**	--
M-45A	Supplementary	Alluvial	12/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-45A	Supplementary	Alluvial	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--	--	--
M-45A	Supplementary	Alluvial	10/22/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.6	--	--	--
M-46A	Supplementary	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	**1.0**	--	--	--
M-46A	Supplementary	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-46A	Supplementary	Alluvial	5/5/2020	**200**	< 6	< 6	--	--	**0.82**	**3.8**	**1.0**	**0.68**	**240**	**3.8**	**3.6 J**	--	--	< 0.5 UJ	--	--	--	**21**	< 0.4	< 0.8	--	**2,700**	**3.2 J**
M-46A	Supplementary	Alluvial	10/25/2020	--	--	--	--	--	**0.67**	**3.1 J**	**1.1**	**0.67**	--	**3.3**	**3.5**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**3.4**
M-46A	Supplementary	Alluvial	4/14/2021	--	--	--	--	--	**0.84**	**3.6**	**4.4**	**1.7**	**270**	**3.7**	**3.4**	--	--	< 0.25	--	--	--	**22**	<0.4	<0.7	--	**3,100**	--
M-46A	Supplementary	Alluvial	10/22/2021	--	--	--	--	--	**0.52**	**3.5**	**1.3**	**1.2**	--	**3.00**	**3.1**	--	--	< 0.25	--	--	--	--	**0.8**	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-50A	Downgradient	Alluvial	12/2/2015	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**8.8**	< 0.4	< 0.7	**16**	**1,900**	--
M-50A	Downgradient	Alluvial	12/2/2015	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**8.7**	< 0.4	< 0.7	**16**	**1,900**	--
M-50A	Downgradient	Alluvial	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.5	--	--	--
M-50A	Downgradient	Alluvial	5/5/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.8	--	--	--
M-50A	Downgradient	Alluvial	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-50A	Downgradient	Alluvial	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.1**	--	--	--
M-50A	Downgradient	Alluvial	2/21/2017	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**8.7**	< 0.4	< 0.6	--	**1,800**	--
M-50A	Downgradient	Alluvial	4/13/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**7.9**	< 0.6	< 0.6	--	**1,700**	--
M-50A	Downgradient	Alluvial	4/26/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**8.0**	< 0.4	< 0.6	--	**1,800**	--
M-50A	Downgradient	Alluvial	5/18/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**8.1**	**0.6**	< 0.6	--	**1,800**	--
M-50A	Downgradient	Alluvial	5/24/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**8.8**	**0.8**	< 0.6	--	**1,900**	--
M-50A	Downgradient	Alluvial	6/30/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**7.8**	< 0.5	< 0.7	--	**1,800**	--
M-50A	Downgradient	Alluvial	7/27/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**8.1**	< 0.4	< 0.7	--	**1,800**	--
M-50A	Downgradient	Alluvial	9/7/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**8.3**	< 0.4	< 0.6	--	**1,800**	--
M-50A	Downgradient	Alluvial	12/8/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**8.4**	--	--	--	**1,700**	--
M-50A	Downgradient	Alluvial	2/14/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.2**	**0.1**	--	--	--
M-50A	Downgradient	Alluvial	2/14/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.4**	--	--	--
M-50A	Downgradient	Alluvial	5/21/2018	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**7.5**	**0.4**	< 0.6	--	**1,700**	--
M-50A	Downgradient	Alluvial	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-50A	Downgradient	Alluvial	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.9**	--	--	--
M-50A	Downgradient	Alluvial	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
M-50A	Downgradient	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-50A	Downgradient	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
M-50A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-50A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-50A	Downgradient	Alluvial	5/6/2020	**160**	< 6	< 6	--	--	< 0.5	**2.9 J**	< 0.1	< 0.1	**200**	**0.25**	**0.23**	--	--	< 0.5	--	--	--	**9.8**	< 0.4	< 0.8	--	**1,600**	**2.9**
M-50A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	< 0.5	**2.9**	**0.28**	**0.21**	--	**0.24**	**0.22**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**2.6**
M-50A	Downgradient	Alluvial	4/15/2021	--	--	--	--	--	< 0.05	**2.6**	**0.13**	**0.084 J**	**220**	**0.36**	**0.25**	--	--	< 0.25	--	--	--	**8.2**	<0.4	<0.7	--	**1,700**	--
M-50A	Downgradient	Alluvial	10/23/2021	--	--	--	--	--	< 0.05	**2.9**	**0.087 J**	**0.037 J**	--	**0.37**	**0.38**	--	--	< 0.25	--	--	--	--	< 0.5	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-51A	Downgradient	Alluvial	12/2/2015	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**370**	--	--	--	--	--	--	--	--	**36**	< 0.5	< 0.9	**13**	**3,600**	--
M-51A	Downgradient	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.9	--	--	--
M-51A	Downgradient	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.8	--	--	--
M-51A	Downgradient	Alluvial	5/5/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
M-51A	Downgradient	Alluvial	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-51A	Downgradient	Alluvial	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-51A	Downgradient	Alluvial	2/21/2017	**94**	< 6.0	< 6.0	--	--	--	--	--	--	**330**	--	--	--	--	--	--	--	--	**33**	< 0.4	**0.6**	--	**3,500**	--
M-51A	Downgradient	Alluvial	4/13/2017	**97**	< 6.0	< 6.0	--	--	--	--	--	--	**330**	--	--	--	--	--	--	--	--	**32**	< 0.6	< 0.6	--	**3,500**	--
M-51A	Downgradient	Alluvial	4/26/2017	**97**	< 6.0	< 6.0	--	--	--	--	--	--	**330**	--	--	--	--	--	--	--	--	**34**	< 0.4	< 0.6	--	**3,500**	--
M-51A	Downgradient	Alluvial	5/18/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**320**	--	--	--	--	--	--	--	--	**35**	< 0.4	< 0.6	--	**3,400**	--
M-51A	Downgradient	Alluvial	5/24/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**360**	--	--	--	--	--	--	--	--	**38**	< 0.4	**0.6**	--	**3,600**	--
M-51A	Downgradient	Alluvial	6/30/2017	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**330**	--	--	--	--	--	--	--	--	**36**	< 0.5	< 0.7	--	**3,500**	--
M-51A	Downgradient	Alluvial	6/30/2017	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**340**	--	--	--	--	--	--	--	--	**37**	< 0.5	< 0.7	--	**3,500**	--
M-51A	Downgradient	Alluvial	7/27/2017	**98**	< 6.0	< 6.0	--	--	--	--	--	--	**340**	--	--	--	--	--	--	--	--	**39**	< 0.4	< 0.7	--	**3,500**	--
M-51A	Downgradient	Alluvial	9/7/2017	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**340**	--	--	--	--	--	--	--	--	**38**	< 0.4	< 0.6	--	**3,500**	--
M-51A	Downgradient	Alluvial	12/8/2017	**95**	< 6.0	< 6.0	--	--	--	--	--	--	**310**	--	--	--	--	--	--	--	--	**34**	--	--	--	**3,300**	--
M-51A	Downgradient	Alluvial	2/14/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.1**	--	--	--
M-51A	Downgradient	Alluvial	5/21/2018	**95**	< 6.0	< 6.0	--	--	--	--	--	--	**290**	--	--	--	--	--	--	--	--	**31**	< 0.4	< 0.6	--	**3,800**	--
M-51A	Downgradient	Alluvial	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-51A	Downgradient	Alluvial	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
M-51A	Downgradient	Alluvial	4/10/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
M-51A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
M-51A	Downgradient	Alluvial	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-51A	Downgradient	Alluvial	5/6/2020	**83**	< 6	< 6	--	--	< 0.5	**1.8**	< 0.1	< 0.1	**280**	**0.89**	**0.84**	--	--	< 0.5	--	--	--	**35**	< 0.4	< 0.8	--	**3,000**	**1.7**
M-51A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	< 0.5	**1.6 J**	**0.041**	< 0.1	--	**0.92**	**0.97**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**1.5**
M-51A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	**0.36**	**1.6 J**	**0.022**	**0.024**	--	**0.95**	**1**	--	--	< 0.25	--	--	--	--	**0.4**	< 0.8	--	--	**1.5**
M-51A	Downgradient	Alluvial	4/15/2021	--	--	--	--	--	< 0.05	**1.7**	**0.11**	**0.072 J**	**290**	**0.51**	**0.51**	--	--	**0.18 J**	--	--	--	**33**	<0.4	<0.7	--	**3,300**	--
M-51A	Downgradient	Alluvial	10/23/2021	--	--	--	--	--	**0.061**	**1.7**	**0.039 J**	**0.037 J**	--	**0.86**	**0.89**	--	--	< 0.25	--	--	--	--	**0.7**	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	11/30/2015	**160**	< 6.0	< 6.0	--	--	--	--	--	--	**79**	--	--	--	--	--	--	--	--	**8.3**	< 0.4	< 0.7	**12**	**250**	--
M-63A	Supplementary	Alluvial	03/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.6	--	--	--
M-63A	Supplementary	Alluvial	03/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/05/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**	**1.4**	--	--	--
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.6	--	--	--
M-63A	Supplementary	Alluvial	08/24/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	09/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	**0.8**	--	--	--
M-63A	Supplementary	Alluvial	09/21/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	10/04/2016	--	--	--	--	--	--	--	--	--	**86**	--	--	--	< 0.10	--	< 0.10	< 0.10	< 0.50	--	--	--	--	**370**	--
M-63A	Supplementary	Alluvial	02/20/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-63A	Supplementary	Alluvial	04/13/2017	**290**	< 6.0	< 6.0	--	--	--	--	--	--	**88**	--	--	--	--	--	--	--	--	**5.2**	< 0.5	< 0.6	--	**400**	--
M-63A	Supplementary	Alluvial	04/13/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	04/26/2017	**290**	< 6.0	< 6.0	--	--	--	--	--	--	**88**	--	--	--	--	--	--	--	--	**5.4**	< 0.4	**0.8**	--	**410**	--
M-63A	Supplementary	Alluvial	04/26/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/22/2017	--	--	--	--	--	--	--	--	--	**84**	--	--	--	**0.10**	--	< 0.10	**0.10**	< 0.50	--	--	--	--	**330**	--
M-63A	Supplementary	Alluvial	05/22/2017	**290**	< 6.0	< 6.0	--	--	--	--	--	--	**86**	--	--	--	--	--	--	--	--	**5.6**	< 0.5	< 0.6	--	**330**	--
M-63A	Supplementary	Alluvial	05/22/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	05/24/2017	**290**	< 6.0	< 6.0	--	--	--	--	--	--	**85**	--	--	--	--	--	--	--	--	**5.5**	< 0.3	< 0.6	--	**340**	--
M-63A	Supplementary	Alluvial	05/24/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-63A	Supplementary	Alluvial	06/30/2017	**290**	< 6.0	< 6.0	--	--	--	--	--	--	**84**	--	--	--	--	--	--	--	--	**5.7**	< 0.5	< 0.7	--	**280**	--
M-63A	Supplementary	Alluvial	07/28/2017	**300**	< 6.0	< 6.0	--	--	--	--	--	--	**92**	--	--	--	--	--	--	--	--	**6.3**	< 0.4	**1.0**	--	**280**	--
M-63A	Supplementary	Alluvial	07/28/2017	**300**	< 6.0	< 6.0	--	--	--	--	--	--	**91**	--	--	--	--	--	--	--	--	**6.2**	< 0.4	< 0.7	--	**270**	--
M-63A	Supplementary	Alluvial	09/07/2017	**300**	< 6.0	< 6.0	--	--	--	--	--	--	**89**	--	--	--	--	--	--	--	--	**6.1**	< 0.5	< 0.7	--	**280**	--
M-63A	Supplementary	Alluvial	06/24/2019	--	--	--	--	--	--	--	--	--	**77**	--	--	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	--	--	--	--	**300**	--
M-63A	Supplementary	Alluvial	4/15/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--	--	--
M-63A	Supplementary	Alluvial	10/24/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.7**	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65A	Downgradient	Alluvial	12/5/2018	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**470**	--	--	--	--	--	--	--	--	**89**	< 0.4	**0.9**	**20**	**4,000**	--
MW-65A	Downgradient	Alluvial	12/5/2018	**160**	< 6.0	< 6.0	--	--	--	--	--	--	**290**	--	--	--	--	--	--	--	--	**28**	< 0.4	**0.9**	**32**	**2,000**	--
MW-65A	Downgradient	Alluvial	2/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
MW-65A	Downgradient	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-65A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-65A	Downgradient	Alluvial	5/5/2020	**150**	< 6	< 6	--	--	< 0.5	**2.4**	< 0.1	< 0.1	**270**	**0.31**	**0.29**	--	--	< 0.5	--	--	--	**30**	< 0.4	< 0.8	--	**1,900**	**2.1**
MW-65A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	< 0.5	**2.7**	**1.2**	**0.84**	--	**0.3**	**0.33**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**3.2**
MW-65A	Downgradient	Alluvial	4/14/2021	--	--	--	--	--	**0.041 J**	**2.4**	**0.45**	**0.37**	**300**	**0.31**	**0.27**	--	--	< 0.25	--	--	--	**33**	<0.4	<0.7	--	**2,100**	--
MW-65A	Downgradient	Alluvial	10/22/2021	--	--	--	--	--	**0.061**	**2.8**	**1.3**	**0.43**	--	**0.28**	**0.24**	--	--	< 0.25	--	--	--	--	**0.4**	**0.9**	--	--	--
MW-66A	Downgradient	Alluvial	12/5/2018	**80**	< 6.0	< 6.0	--	--	--	--	--	--	**280**	--	--	--	--	--	--	--	--	**11**	< 0.4	< 0.6	**55**	**2,500**	--
MW-66A	Downgradient	Alluvial	2/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-66A	Downgradient	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
MW-66A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-66A	Downgradient	Alluvial	5/5/2020	**150**	< 6	< 6	--	--	< 0.5	**2.3**	**0.23**	**0.15**	**280**	**4.3**	**4.1**	--	--	< 0.5	--	--	--	**14**	< 0.4	< 0.8	--	**2,400**	**2.7**
MW-66A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	< 0.5	**2.3**	**0.27**	**0.25**	--	**3.8**	**4.1**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**2.3**
MW-66A	Downgradient	Alluvial	4/15/2021	--	--	--	--	--	< 0.05	**2.3**	**1.8**	**0.81**	**290**	**3.9**	**3.6**	--	--	< 0.25	--	--	--	**11**	<0.4	<0.7	--	**2,700**	--
MW-66A	Downgradient	Alluvial	10/24/2021	--	--	--	--	--	**0.13**	**2.3**	**1.1**	**0.26**	--	**3.5**	**3.6**	--	--	< 0.25	--	--	--	--	< 0.42	< 0.6	--	--	--
MW-67A	Downgradient	Alluvial	12/5/2018	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**270**	--	--	--	--	--	--	--	--	**12**	< 0.4	< 0.6	**41**	**1,400**	--
MW-67A	Downgradient	Alluvial	2/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.4**	--	--	--
MW-67A	Downgradient	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.9**	--	--	--
MW-67A	Downgradient	Alluvial	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-67A	Downgradient	Alluvial	5/5/2020	**170**	< 6	< 6	--	--	**1.4**	**2.2**	**8.0**	**7.8**	**290**	**5.1**	**4.9**	--	--	< 0.5	--	--	--	**14**	< 0.4	< 0.8	--	**1,500**	**2.3**
MW-67A	Downgradient	Alluvial	10/25/2020	--	--	--	--	--	**1.4**	**2.2**	**8.2**	**8**	--	**4.7**	**5.1**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	**2.1**
MW-67A	Downgradient	Alluvial	4/14/2021	--	--	--	--	--	**1.6**	**2.4**	**8.8**	**7.8**	**320**	**5.2**	**4.9**	--	--	**0.27**	--	--	--	**14**	<0.4	<0.7	--	**1,600**	--
MW-67A	Downgradient	Alluvial	10/22/2021	--	--	--	--	--	**1.4**	**2.3**	**8.3**	**8.5**	--	**4.9**	**5**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-123	Downgradient	Moqui	12/3/2015	59	< 6.0	< 6.0	--	--	--	--	--	--	310	--	--	--	--	--	--	--	--	34	0.7	< 0.7	15	4,000	--
W-123	Downgradient	Moqui	3/8/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.4	--	--	--
W-123	Downgradient	Moqui	5/6/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.8	--	--	--
W-123	Downgradient	Moqui	8/25/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.5	< 0.6	--	--	--
W-123	Downgradient	Moqui	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.6	< 0.7	--	--	--
W-123	Downgradient	Moqui	2/20/2017	68	< 6.0	< 6.0	--	--	--	--	--	--	310	--	--	--	--	--	--	--	--	47	< 0.4	< 0.6	--	3,900	--
W-123	Downgradient	Moqui	4/13/2017	69	< 6.0	< 6.0	--	--	--	--	--	--	300	--	--	--	--	--	--	--	--	43	< 0.4	< 0.6	--	3,800	--
W-123	Downgradient	Moqui	4/26/2017	70	< 6.0	< 6.0	--	--	--	--	--	--	290	--	--	--	--	--	--	--	--	44	< 0.4	< 0.6	--	3,700	--
W-123	Downgradient	Moqui	5/22/2017	73	< 6.0	< 6.0	--	--	--	--	--	--	310	--	--	--	--	--	--	--	--	48	< 0.5	< 0.6	--	4,100	--
W-123	Downgradient	Moqui	5/24/2017	72	< 6.0	< 6.0	--	--	--	--	--	--	290	--	--	--	--	--	--	--	--	44	< 0.3	< 0.6	--	3,800	--
W-123	Downgradient	Moqui	6/30/2017	77	< 6.0	< 6.0	--	--	--	--	--	--	310	--	--	--	--	--	--	--	--	47	< 0.4	< 0.7	--	3,900	--
W-123	Downgradient	Moqui	7/27/2017	79	< 6.0	< 6.0	--	--	--	--	--	--	310	--	--	--	--	--	--	--	--	51	< 0.4	< 0.6	--	3,900	--
W-123	Downgradient	Moqui	9/7/2017	84	< 6.0	< 6.0	--	--	--	--	--	--	320	--	--	--	--	--	--	--	--	52	< 0.5	< 0.7	--	3,900	--
W-123	Downgradient	Moqui	12/8/2017	69	< 6.0	< 6.0	--	--	--	--	--	--	300	--	--	--	--	--	--	--	--	48	--	--	--	3,800	--
W-123	Downgradient	Moqui	2/14/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0.1	0.4	--	--	--
W-123	Downgradient	Moqui	5/21/2018	74	< 6.0	< 6.0	--	--	--	--	--	--	290	--	--	--	--	--	--	--	--	45	< 0.4	0.8	--	4,500	--
W-123	Downgradient	Moqui	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-123	Downgradient	Moqui	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
W-123	Downgradient	Moqui	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
W-123	Downgradient	Moqui	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
W-123	Downgradient	Moqui	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
W-123	Downgradient	Moqui	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-123	Downgradient	Moqui	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
W-123	Downgradient	Moqui	11/25/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-123	Downgradient	Moqui	5/6/2020	54	< 6	< 6	--	--	< 0.5	1.9	0.16	< 0.1	270	< 0.01	< 0.01	--	--	0.83	--	--	--	48	< 0.4	< 0.8	--	3,500	2.1
W-123	Downgradient	Moqui	10/26/2020	--	--	--	--	--	< 0.5	1.7	0.3	0.075	--	0.12	0.022	--	--	0.79	--	--	--	--	< 0.4	< 0.8	--	--	1.5
W-123	Downgradient	Moqui	4/15/2021	--	--	--	--	--	< 0.05	1.6	1.8	0.24	310	0.16	0.034	--	--	0.85	--	--	--	58	<0.4	<0.7	--	3,700	--
W-123R	Downgradient	Alluvial	6/5/2021	49 J	< 6 UJ	< 6 UJ	49 J	< 6 UJ	--	--	--	--	230	--	--	--	--	--	--	--	--	30	--	--	--	3,800	--
W-123R	Downgradient	Alluvial	6/15/2021	48	< 6	< 6	48	< 6	--	--	0.064 J	--	280	--	--	--	--	--	--	--	--	34	--	--	--	--	--
W-123R	Downgradient	Alluvial	8/3/2021	--	--	--	--	--	1.3	2.0	0.04 J	0.042 J	--	2.4	2.6	--	< 0.25	--	--	--	--	--	< 0.7	< 0.6	--	--	--
W-123R	Downgradient	Alluvial	10/23/2021	--	--	--	--	--	1.2	2.0	0.058 J	0.043 J	--	2.5	2.7	--	--	0.17 J	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	**Alkalinity Bicarbonate**	**Alkalinity Carbonate**	**Alkalinity Hydroxide**	**Alkalinity as CaCO3**	**Alkalinity, Phenolphthalein**	**Ammonia (as N)**	**Dissolved Organic Carbon**	**Iron**	**Iron**	**Magnesium**	**Manganese**	**Manganese**	**Nickel**	**Nitrate as N**	**Nitrate-Nitrite as N**	**Nitrite (as N)**	**Nitrogen**	**Nitrogen, Kjeldahl, Total**	**Potassium**	**Radium 226**	**Radium 228**	**SiO2, Silica**	**Sodium**	**Total Organic Carbon**
			Filtered:	**N**	**N**	**N**	**N**	**N**	**N**	**Y**	**N**	**Y**	**N**	**N**	**Y**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**	**N**
			Units:	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**mg/L**	**pCi/L**	**pCi/L**	**mg/L**	**mg/L**	**mg/L**
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-125	Supplementary	Coconino Sandstone	12/2/2015	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**51**	--	--	--	--	--	--	--	--	**3.7**	**2.8**	**2.6**	**12**	**500**	--
W-125	Supplementary	Coconino Sandstone	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4**	**0.6**	--	--	--
W-125	Supplementary	Coconino Sandstone	5/22/2016	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**3.5**	**1.3**	**1.3**	**11**	**460**	--
W-125	Supplementary	Coconino Sandstone	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.4**	**3.1**	--	--	--
W-125	Supplementary	Coconino Sandstone	9/23/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.2**	< 0.7	--	--	--
W-125	Supplementary	Coconino Sandstone	2/20/2017	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**49**	--	--	--	--	--	--	--	--	**3.7**	**1.7**	**1.3**	--	**490**	--
W-125	Supplementary	Coconino Sandstone	4/13/2017	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**47**	--	--	--	--	--	--	--	--	**3.4**	**1.3**	**1.2**	--	**450**	--
W-125	Supplementary	Coconino Sandstone	4/26/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**3.6**	**1.3**	**2.2**	--	**480**	--
W-125	Supplementary	Coconino Sandstone	5/22/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**51**	--	--	--	--	--	--	--	--	**3.7**	**1.3**	< 0.6	--	**480**	--
W-125	Supplementary	Coconino Sandstone	5/22/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**50**	--	--	--	--	--	--	--	--	**3.6**	**1.0**	**1.7**	--	**470**	--
W-125	Supplementary	Coconino Sandstone	5/24/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**51**	--	--	--	--	--	--	--	--	**3.7**	**1.8**	**1.3**	--	**490**	--
W-125	Supplementary	Coconino Sandstone	6/29/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**48**	--	--	--	--	--	--	--	--	**3.4**	**1.1**	**1.5**	--	**440**	--
W-125	Supplementary	Coconino Sandstone	7/27/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**51**	--	--	--	--	--	--	--	--	**3.7**	**1.7**	**1.1**	--	**480**	--
W-125	Supplementary	Coconino Sandstone	9/6/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**50**	--	--	--	--	--	--	--	--	**3.7**	< 0.5	**1.2**	--	**470**	--
W-125	Supplementary	Coconino Sandstone	9/6/2017	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**50**	--	--	--	--	--	--	--	--	**3.7**	**1.7**	**1.1**	--	**470**	--
W-125	Supplementary	Coconino Sandstone	5/6/2020	**160**	< 6	< 6	--	--	--	--	--	--	**51**	--	--	--	--	--	--	--	--	**4.3**	--	--	--	**450**	--
W-125	Supplementary	Coconino Sandstone	10/24/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.7**	**1.4**	--	--	--
W-125	Supplementary	Coconino Sandstone	4/15/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2.6**	**1.2**	--	--	--
W-125	Supplementary	Coconino Sandstone	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**1.4 J**	**0.9 J**	--	--	--
W-125	Supplementary	Coconino Sandstone	10/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**2 J**	**1.9 J**	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	1/3/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	12/5/2018	100	< 6.0	< 6.0	--	--	--	--	--	--	470	--	--	--	--	--	--	--	--	91	< 0.4	< 0.6	24 J	4,000	--
W-126	Downgradient	Moqui	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	5/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	6/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	--	--	--	--	--	--
W-126	Downgradient	Moqui	7/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	8/19/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/14/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	--
W-126	Downgradient	Moqui	11/26/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-126	Downgradient	Moqui	5/5/2020	95	< 6	< 6	--	--	< 0.5	2.3	< 0.1	< 0.1	500	0.12	0.10	--	--	< 0.5	--	--	--	87	< 0.4	< 0.8	--	4,200	2.3
W-126	Downgradient	Moqui	10/25/2020	--	--	--	--	--	< 0.5	1.9	0.064	0.048	--	0.29	0.3	--	--	< 0.25	--	--	--	--	< 0.4	< 0.8	--	--	1.9
W-126	Downgradient	Moqui	4/15/2021	--	--	--	--	--	0.20	1.9	0.15	0.10	490	0.16	0.15	--	--	< 0.25	--	--	--	92	<0.4	<0.7	--	4,200	--
W-126R	Downgradient	Alluvial	6/4/2021	82 J	< 6 UJ	< 6 UJ	82 J	< 6 UJ	--	--	--	--	410	--	--	--	--	--	--	--	--	49	--	--	--	4,500	--
W-126R	Downgradient	Alluvial	6/15/2021	84	< 6	< 6	84	< 6	--	--	0.17	--	420	--	--	--	--	--	--	--	--	47	--	--	--	--	--
W-126R	Downgradient	Alluvial	8/3/2021	--	--	--	--	--	0.43	2.0	0.26	0.14	--	0.51	0.53	--	< 0.25	--	--	--	--	--	0.4	< 0.6	--	--	--
W-126R	Downgradient	Alluvial	10/23/2021	--	--	--	--	--	0.42	2.1	1.1	0.071 J	--	0.51	0.49	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for FAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			FAP BTV	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			FAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
EW-02	Extraction Well	Alluvial	1/8/2021	**150**	< 6	< 6	**150**	< 6	--	--	**0.37**	--	**330**	--	--	--	--	--	--	--	--	**11**	--	--	--	--	--
EW-04	Extraction Well	Alluvial	1/5/2021	**51**	< 6	< 6	**51**	< 6	--	--	**0.089 J**	--	**200**	--	--	--	--	--	--	--	--	**29**	--	--	--	--	--
GSX-1R	Extraction Well	Alluvial	6/28/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSX-1R	Extraction Well	Alluvial	6/29/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSX-1R	Extraction Well	Alluvial	6/29/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
GSX-1R	Extraction Well	Alluvial	8/3/2021	**75**	< 6	< 6	**75**	< 6	**0.13**	--	**0.058 J**	--	**240**	**0.67**	--	--	< 0.25	--	--	--	--	**18**	< 0.4	< 0.6	--	**3,100**	**1.7**
Geronimo C	Supplementary	Seepage	4/15/2021	**81**	< 6	< 6	--	--	--	--	--	--	**750**	--	--	--	--	--	--	--	--	**73**	<0.4	<0.8	--	**5,500**	**3.3**
Geronimo D	Supplementary	Seepage	4/15/2021	**83**	< 6	< 6	--	--	--	--	--	--	**580**	--	--	--	--	--	--	--	--	**58**	<0.4	<0.8	--	**4,900**	**3.1**
Hunt B	Supplementary	Seepage	4/15/2021	**64**	< 6	< 6	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**33**	<0.4	<0.8	--	**3,000**	**1.7**
FAP	Supplementary	Surface Pond	10/31/2021	**240**	< 6	< 6	**240**	< 6	**0.14**	**74**	**3.3**	**3.1**	**12,000**	**28**	**25**	--	--	< 0.25	--	--	--	**520**	**14.1**	< 3.6	--	**32,000**	**76**

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red text.

Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

< = less than
BTV = Background Threshold Value
degrees C = degrees Celsius
FAP = Fly Ash Pond
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-64A	Background	Alluvial	2/20/2017	**1.1**	**570**	**4,000**	< 8.0	**7.4**	**4,100**	**11,000**	< 0.0010	**0.00087**	--	**0.036**	< 0.0010	**0.00011**	**0.0018**	--	**0.0024**	--	< 8.0	< 0.00050	**0.26**	< 0.00020	**0.0065**	**0.00074**	< 0.00010	**0.8**
M-64A	Background	Alluvial	2/20/2017	**1.2**	**520**	**4,500**	< 0.80	**7.4**	**4,400**	**10,000**	< 0.0010	**0.00094**	--	**0.034**	< 0.0010	< 0.00010	**0.0021**	--	**0.0015**	--	< 0.80	< 0.00050	**0.27**	< 0.00020	**0.0061**	**0.00082**	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/12/2017	**1.2**	**550**	**4,200**	< 2.0	**7.7**	**4,300**	**13,000**	< 0.0010	**0.0026**	--	**0.019**	< 0.0010	< 0.00010	**0.00078**	--	**0.00082**	--	< 2.0	< 0.00050	**0.25**	< 0.00020	**0.0053**	< 0.00050	< 0.00010	**0.8**
M-64A	Background	Alluvial	4/12/2017	**1.2**	**500**	**4,200**	< 0.80	**7.6**	**4,200**	**13,000**	< 0.0010	**0.0026**	--	**0.019**	< 0.0010	< 0.00010	**0.0015**	--	**0.00068**	--	< 0.80	**0.00071**	**0.25**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/25/2017	**1.3**	**490**	**4,100**	< 0.80	**7.5**	**4,300**	**11,000**	< 0.0010	**0.0017**	--	**0.015**	< 0.0010	< 0.00010	< 0.00050	--	**0.00056**	--	< 0.80	< 0.00050	**0.27**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	**1.6**
M-64A	Background	Alluvial	5/18/2017	**1.3**	**510**	**4,400**	< 0.80	**7.6**	**4,400**	**12,000**	< 0.0010	**0.0016**	--	**0.012**	< 0.0010	< 0.00010	< 0.00050	--	< 0.00050	--	< 0.80	< 0.00050	**0.28**	< 0.00020	**0.0042**	< 0.00050	< 0.00010	**1.3**
M-64A	Background	Alluvial	5/24/2017	**1.2**	**520**	**4,000**	< 0.80	**7.4**	**4,100**	**12,000**	< 0.0010	**0.0023**	--	**0.014**	< 0.0010	< 0.00010	**0.00063**	--	**0.00052**	--	< 0.80	< 0.0020	**0.27**	< 0.00020	**0.0050**	< 0.00050	< 0.00040	**1.1**
M-64A	Background	Alluvial	5/24/2017	**1.3**	**520**	**4,200**	< 0.80	**7.4**	**4,400**	**12,000**	< 0.0010	**0.0019**	--	**0.014**	< 0.0010	< 0.00010	< 0.00050	--	< 0.00050	--	< 0.80	< 0.0020	**0.27**	< 0.00020	**0.0051**	< 0.00050	< 0.00040	**0.4**
M-64A	Background	Alluvial	6/30/2017	**1.2**	**600**	**5,100**	< 0.80	**7.3**	**4,700**	**13,000**	< 0.0010	**0.0033**	--	**0.017**	< 0.0010	< 0.00010	< 0.00050	--	**0.0011**	--	< 0.80	< 0.00050	**0.25**	< 0.00020	**0.0050**	< 0.00050	< 0.00010	< 0.7
M-64A	Background	Alluvial	7/27/2017	**1.3**	**620**	**4,700**	< 0.80	**7.4**	**4,600**	**13,000**	< 0.0020	**0.0027**	--	**0.017**	< 0.0010	< 0.00020	< 0.0010	--	< 0.0010	--	< 0.80	< 0.0010	**0.25**	< 0.00020	**0.0051**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	7/27/2017	**1.3**	**640**	**4,900**	< 0.80	**7.4**	**4,800**	**13,000**	< 0.0020	**0.0028**	--	**0.017**	< 0.0010	< 0.00020	< 0.0010	--	< 0.0010	--	< 0.80	< 0.0010	**0.25**	< 0.00020	**0.0051**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	9/7/2017	**1.2**	**620**	**4,700**	< 0.80	**7.3**	**4,300**	**12,000**	< 0.0040	**0.0025**	--	**0.017**	< 0.0010	< 0.00040	< 0.0040	--	< 0.0020	--	< 0.80	< 0.0020	**0.26**	< 0.00020	**0.0059**	< 0.0020	< 0.00040	< 0.7
M-64A	Background	Alluvial	12/8/2017	**1.2**	**500**	**3,500**	< 0.80	**7.4**	**4,400**	**12,000**	--	--	--	--	--	--	--	--	--	--	< 0.80	--	--	--	--	--	--	--
M-64A	Background	Alluvial	2/15/2018	--	--	--	< 0.80	--	--	--	< 0.0020	< 0.0010	--	**0.015**	< 0.0010	< 0.00020	**0.0022**	--	< 0.00050	--	< 0.80	< 0.0010	**0.27**	< 0.00020	**0.0058**	< 0.00050	< 0.00020	**1.0**
M-64A	Background	Alluvial	5/19/2018	**1.4**	**460**	**4,700**	< 0.80	**7.3**	**4,600**	**13,000**	< 0.0020	**0.0012**	--	**0.012**	--	< 0.00020	< 0.0020	--	< 0.0010	--	< 0.80	< 0.0010	**0.26**	--	**0.0055**	< 0.0010	< 0.00020	< 0.7
M-64A	Background	Alluvial	10/22/2018	**1.3**	**500**	**4,100**	< 2.0	**7.3**	**4,000**	**12,000**	--	**0.0011**	--	**0.011**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 2.0	< 0.00050	**0.25**	--	**0.0050**	< 0.00050	< 0.00010	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-64A	Background	Alluvial	10/22/2018	**1.3**	**510**	**3,900**	< 0.80	**7.4**	**3,700**	**13,000**	--	**0.0013**	--	**0.011**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	**0.25**	--	**0.0052**	< 0.00050	< 0.00010	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-64A	Background	Alluvial	2/13/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.00089**	--	**0.012**	< 0.0010	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	**0.29**	< 0.00020	**0.0049**	**0.00052**	< 0.00010	< 0.6
M-64A	Background	Alluvial	4/11/2019	**1.3**	**500**	**4,400**	< 0.80	**7.3 J**	**4,300**	**12,000**	--	**0.00058**	--	**0.011**	--	< 0.0001	< 0.001	--	< 0.0005	--	< 0.80	< 0.0005	**0.27**	--	**0.0050**	**0.00053**	--	--
M-64A	Background	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.00058**	--	**0.012**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	**0.25**	--	**0.0050**	**0.00078**	< 0.00010	< 0.7
M-64A	Background	Alluvial	8/1/2019	**1.3**	**450**	**4,300**	< 0.8	**7.4 J**	**4,300**	**12,000**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
M-64A	Background	Alluvial	8/1/2019	**1.3**	**450**	**4,200**	< 0.8	**7.4 J**	**4,300**	**12,000**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/24/2019	**1.2**	**460**	**8,400**	< 0.80	**7.5 J**	**8,600**	**13,000**	< 0.0020	**0.0018**	--	**0.013 J**	< 0.0010	< 0.00020	< 0.0020	--	< 0.0010	--	< 0.80	< 0.0010	**0.26**	< 0.00020	**0.0059**	< 0.0010	< 0.00020	--
M-64A	Background	Alluvial	5/6/2020	**1.3**	**510**	**4,100**	< 0.8	**7.6 J**	**4,100**	**12,000**	--	< 0.001	**0.00093**	**0.012**	< 0.001	< 0.0001	< 0.002	--	< 0.001	< 0.0005	< 0.8	< 0.0005	**0.47**	--	**0.0043**	< 0.001	--	< 0.8
M-64A	Background	Alluvial	5/6/2020	**1.2**	**520**	**3,900**	< 0.8	**7.3 J**	**3,900**	**12,000**	--	**0.00086**	**0.00050**	**0.013**	< 0.001	< 0.0001	< 0.001	--	< 0.0005	< 0.0005	< 0.8	< 0.0005	**0.47**	--	**0.0042**	< 0.001	--	< 0.8
M-64A	Background	Alluvial	10/24/2020	**1.2**	**480**	**4,500**	**0.28**	**7.3 J**	**4,400**	**12,000**	< 0.002 U	**0.0036**	< 0.002 U	**0.012**	< 0.001	< 0.0002	< 0.002	--	**0.00025**	< 0.002	**0.28**	**0.001**	**0.31**	< 0.0002	**0.0051**	**0.0044**	< 0.0002	< 0.8
M-64A	Background	Alluvial	4/15/2021	**1.2**	**540**	**4,300**	**0.21 J**	**7.5 J**	**4,400**	**6,600**	< 0.002	**0.0021**	**0.0027**	**0.012**	< 0.001	< 0.0002	< 0.002	--	< 0.001	< 0.001	**0.21 J**	< 0.001	**0.30**	< 0.0002	**0.0049**	**0.0022**	< 0.0002	<0.7
M-64A	Background	Alluvial	10/22/2021	**1.0**	**540**	**4,400**	**0.38 J**	**7.4 J**	**3,900**	**11,000 J**	**0.00013 J**	< 0.0005 U	**0.0015**	**0.012**	< 0.001	**0.000036 J**	**0.0005 J**	--	< 0.0005	**0.000091 J**	**0.38 J**	< 0.0005	**0.28**	< 0.0002	**0.0046**	**0.0002 J**	< 0.0001	< 0.6

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-52A	Downgradient	Alluvial/Moqui	12/1/2015	**3.9**	**790**	**3,600**	**0.53**	**6.99**	**3,000**	**9,600**	< 0.0025	**0.00050**	--	**0.027**	< 0.0010	**0.00071**	**0.0014**	--	**0.060**	--	**0.53**	< 0.00050	**0.27**	< 0.00020	**0.021**	**0.00074**	< 0.00010	**0.4**
M-52A	Downgradient	Alluvial/Moqui	3/9/2016	**3.4**	**780**	**3,800**	< 2.0	**7.01**	**2,700**	**10,000**	< 0.015	< 0.0049	--	**0.022**	< 0.0010	**0.0012 J**	< 0.0087	--	**0.054**	--	< 2.0	< 0.0044	**0.25**	< 0.00020	**0.016**	< 0.0015	**0.0015 J**	< 0.6
M-52A	Downgradient	Alluvial/Moqui	5/10/2016	**3.4**	**910**	**5,100**	< 2.0	--	**2,400**	**12,000**	< 0.00020	< 0.0010	--	**0.023**	< 0.0010	**0.00048**	< 0.0010	--	**0.043**	--	< 2.0	< 0.0010	**0.28**	< 0.00020	**0.013**	< 0.0010	< 0.00020	< 0.4
M-52A	Downgradient	Alluvial/Moqui	8/26/2016	**3.3**	**890**	**4,000**	**0.97**	**6.8**	**2,600**	**11,000**	**0.00012**	< 0.00050	--	**0.024**	< 0.0010	**0.0013**	**0.0012**	--	**0.061**	--	**0.97**	< 0.00050	**0.24**	< 0.00020	**0.040**	**0.00057**	< 0.00010	**0.6**
M-52A	Downgradient	Alluvial/Moqui	9/22/2016	**3.2**	**810**	**3,700**	**0.89**	**7.2**	**2,700**	**11,000**	< 0.00050	**0.00047**	--	**0.019**	< 0.0010	**0.0014**	**0.0011**	--	**0.054**	--	**0.89**	**0.00048**	**0.24**	< 0.00020	**0.050**	< 0.00060	**0.00011**	**0.6**
M-52A	Downgradient	Alluvial/Moqui	2/21/2017	**3.7**	**810**	**3,900**	**0.98**	**7.4**	**2,900**	**10,000**	< 0.0010	**0.00061**	--	**0.016**	< 0.0010	**0.00055**	**0.0042**	--	**0.044**	--	**0.98**	< 0.00050	**0.26**	< 0.00020	**0.020**	**0.00065**	< 0.00010	< 0.6
M-52A	Downgradient	Alluvial/Moqui	2/21/2017	**3.8**	**850**	**3,700**	**0.98**	**7.2**	**2,600**	**9,700**	< 0.0010	**0.00071**	--	**0.016**	< 0.0010	**0.00051**	**0.0058**	--	**0.043**	--	**0.98**	< 0.00050	**0.26**	< 0.00020	**0.021**	**0.00078**	< 0.00010	< 0.6
M-52A	Downgradient	Alluvial/Moqui	4/11/2017	**3.6**	**850**	**4,600**	**0.80**	**7.5**	**2,800**	**11,000**	< 0.0010	**0.00097**	--	**0.016**	< 0.0010	**0.00048**	**0.019**	--	**0.045**	--	**0.80**	< 0.00050	**0.24**	< 0.00020	**0.018**	**0.00079**	< 0.00010	< 0.6
M-52A	Downgradient	Alluvial/Moqui	4/25/2017	**3.6**	**810**	**4,100**	**0.99**	**7.0**	**2,700**	**11,000**	< 0.0010	< 0.00050	--	**0.015**	< 0.0010	**0.00049**	**0.014**	--	**0.041**	--	**0.99**	< 0.00050	**0.26**	< 0.00020	**0.018**	< 0.00050	< 0.00010	**0.9**
M-52A	Downgradient	Alluvial/Moqui	5/18/2017	**3.7**	**880**	**4,400**	**0.86**	**7.3**	**2,900**	**10,000**	< 0.0010	**0.00054**	--	**0.013**	< 0.0010	**0.00052**	**0.016**	--	**0.037**	--	**0.86**	< 0.00050	**0.27**	< 0.00020	**0.017**	**0.00052**	< 0.00010	**0.6**
M-52A	Downgradient	Alluvial/Moqui	5/24/2017	**3.6**	**850**	**4,300**	**0.96**	**7.2**	**2,800**	**10,000**	< 0.0010	**0.00050**	--	**0.016**	< 0.0010	**0.0006**	**0.034**	--	**0.044**	--	**0.96**	< 0.0020	**0.26**	< 0.00020	**0.024**	**0.00064**	< 0.00040	< 0.6
M-52A	Downgradient	Alluvial/Moqui	6/30/2017	**3.3**	**790**	**4,000**	**1.0**	**7.0**	**3,100**	**9,800**	< 0.0010	< 0.00050	--	**0.014**	< 0.0010	**0.0013**	**0.0071**	--	**0.051**	--	**1.0**	< 0.00050	**0.23**	< 0.00020	**0.038**	**0.00051**	< 0.00010	< 0.7
M-52A	Downgradient	Alluvial/Moqui	7/28/2017	**3.1**	**780**	**3,500**	**1.0**	**7.0**	**3,100**	**9,200**	< 0.0020	< 0.0010	--	**0.014**	< 0.0010	**0.0018**	**0.0046**	--	**0.063**	--	**1.0**	< 0.0010	**0.21**	< 0.00020	**0.062**	< 0.0010	< 0.00020	< 0.7
M-52A	Downgradient	Alluvial/Moqui	9/7/2017	**3.2**	**790**	**3,200**	**0.90**	**7.1**	**2,900**	**9,100**	< 0.0040	< 0.0020	--	**0.014**	< 0.0010	**0.0019**	< 0.0040	--	**0.066**	--	**0.90**	< 0.0020	**0.22**	< 0.00020	**0.071**	< 0.0020	< 0.00040	**0.6**
M-52A	Downgradient	Alluvial/Moqui	12/7/2017	**3.1**	**820**	**3,600**	**0.84**	**7.1**	**2,700**	**9,700**	--	--	--	--	--	--	--	--	--	--	**0.84**	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	2/15/2018	--	--	--	**1.1**	--	--	--	< 0.0010	**0.0018**	--	**0.017**	< 0.0010	**0.0011**	**0.011**	--	**0.052**	--	**1.1**	**0.0010**	**0.25**	< 0.00020	**0.048**	**0.00091**	**0.00018**	**0.9**
M-52A	Downgradient	Alluvial/Moqui	5/20/2018	**3.7**	**850**	**4,500**	**1.2**	**6.9**	**2,800**	**11,000**	< 0.0010	**0.010**	--	**0.026**	--	**0.015**	**0.051**	--	**0.100**	--	--	**0.0027**	**0.25**	--	**0.11**	**0.0017**	**0.00017**	--
M-52A	Downgradient	Alluvial/Moqui	6/7/2018	**3.5**	**810**	**4,600**	**0.99**	**6.8**	**2,900**	**11,000**	< 0.0010	**0.0026**	--	**0.018**	--	**0.00094**	**0.018**	--	**0.062**	--	**0.99**	**0.0010**	**0.24**	--	**0.052**	**0.0013**	**0.00013**	**0.7**
M-52A	Downgradient	Alluvial/Moqui	10/24/2018	**3.5**	**840**	**3,900**	**0.89**	**7.0**	**2,700**	**10,000**	--	**0.0025**	--	**0.016**	--	**0.0011**	**0.059**	--	**0.055**	--	**0.87**	**0.00057**	**0.24**	--	**0.061**	**0.00063**	< 0.00010	--
M-52A	Downgradient	Alluvial/Moqui	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-52A	Downgradient	Alluvial/Moqui	12/8/2018	**4.3**	**920**	**4,900**	**1.0 J,UJ**	**6.8 J**	**2,700**	**11,000**	< 0.0050	**0.0022**	--	**0.019**	--	< 0.0010	**0.043**	--	**0.036**	--	**1.0 J,UJ**	< 0.0010	**0.29**	< 0.00020	**0.031**	< 0.0060	< 0.0010	< 0.7
M-52A	Downgradient	Alluvial/Moqui	2/15/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.0018 J**	--	**0.016 J**	< 0.0010	**0.00012**	**0.0015**	--	**0.022**	--	< 0.80	**0.0024 J**	**0.22**	< 0.00020	**0.026 J**	**0.00070**	< 0.00010	--
M-52A	Downgradient	Alluvial/Moqui	2/15/2019	--	--	--	**0.93**	--	--	--	< 0.0010	**0.00077**	--	**0.015**	< 0.0010	**0.00027**	**0.037**	--	**0.029**	--	**0.93**	< 0.00050	**0.32**	< 0.00020	**0.020**	**0.0015**	< 0.00010	< 0.6
M-52A	Downgradient	Alluvial/Moqui	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.00057**	--	**0.012**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	**0.25**	--	**0.0051**	< 0.00050	< 0.00010	< 0.7
M-52A	Downgradient	Alluvial/Moqui	4/16/2019	--	--	--	**1.1**	--	--	--	--	< 0.00050	--	**0.019**	--	**0.00047**	**0.080**	--	**0.027**	--	**1.1**	< 0.00050	**0.30**	--	**0.021**	**0.0017**	< 0.00010	< 0.7
M-52A	Downgradient	Alluvial/Moqui	8/1/2019	**3.5**	**880**	**5,000**	**1.0**	**6.9 J**	**2,800**	**12,000**	--	--	--	--	--	--	--	--	--	--	**1.0**	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	10/24/2019	**3.2**	**760**	**3,400**	**0.91**	**7.0 J**	**2,900**	**9,300**	< 0.0020	**0.0012**	--	**0.017**	< 0.0010	**0.0019**	**0.024**	--	**0.070**	--	**0.91**	< 0.0010	**0.22**	< 0.00020	**0.078**	**0.0011**	< 0.00020	--
M-52A	Downgradient	Alluvial/Moqui	4/19/2020	**4.1**	**700**	**4,300**	**0.88**	**7.2 J**	**3,400**	**11,000**	--	< 0.0025	< 0.0025	**0.014**	**0.00056 J**	< 0.0005	**0.018**	--	**0.039**	**0.042**	**0.88**	< 0.0005	< 0.2	--	**0.022**	< 0.005	**0.00010**	--
M-52A	Downgradient	Alluvial/Moqui	10/22/2020	**2.9**	**660**	**2,500**	**1.5**	**7.4 J**	**3,000**	**7,700**	< 0.002 U	**0.0012**	**0.0016 J**	**0.014**	< 0.001	**0.002**	**0.0087**	--	**0.067**	**0.070**	**1.5**	**0.00053 J**	**0.20**	< 0.0002	**0.086**	**0.0026**	**0.00008 J**	< 0.8
M-52A	Downgradient	Alluvial/Moqui	4/17/2021	**3.5**	**780**	**3,600**	**1.5**	**6.9 J**	**3,000**	**9,500**	< 0.002	**0.0017 J**	**0.0010**	**0.017**	< 0.001	**0.00088**	**0.0052**	--	**0.059**	**0.058**	**1.5**	< 0.001	**0.27**	< 0.0002	**0.058**	**0.0013**	< 0.0002	<0.8
M-52A	Downgradient	Alluvial/Moqui	10/29/2021	**3.0**	**650**	**4,200**	**1.3**	**7.3 J**	**5,800**	**7,000**	< 0.002	**0.00057 J**	**0.00098**	**0.013**	< 0.001	**0.0013**	**0.025**	--	**0.062**	**0.063**	**1.3**	< 0.001	**0.23**	< 0.0002	**0.074**	**0.0019**	**0.00019 J**	**0.5**

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	1.3	740	5,700	0.8	7.4	5,100	15,000	0.004	0.004	0.004	0.05	0.001	0.0004	0.004	0.004	0.002	0.002	0.8	0.002	0.31	0.0002	0.0061	0.002	0.0014	1.6
			BAP GWPS	--	--	--	--	--	--	--	0.006	0.01	0.01	2	0.004	0.005	0.1	0.1	0.006	0.006	4	0.015	0.31	0.002	0.1	0.05	0.002	5
M-53A	Downgradient	Alluvial	12/1/2015	2.9	740	2,600	0.87	7.57	2,900	8,100	< 0.0025	0.0014	--	0.021	< 0.0010	0.0013	0.0014	--	0.024	--	0.87	0.00058	0.21	< 0.00020	0.041	0.00071	< 0.00010	< 0.7
M-53A	Downgradient	Alluvial	3/9/2016	2.4	770	2,500	0.94	7.44	2,600	7,400	< 0.015	< 0.0049	--	0.024	< 0.0010	0.0024	< 0.0087	--	0.023	--	0.94	< 0.0044	< 0.20	< 0.00020	0.036	< 0.0015	< 0.00026	0.5
M-53A	Downgradient	Alluvial	5/10/2016	2.4	750	2,400	< 2.0	--	2,600	7,800	< 0.00020	0.0018	--	0.021	< 0.0010	0.0014	0.0010	--	0.022	--	< 2.0	< 0.0010	< 0.20	< 0.00020	0.037	< 0.0010	< 0.00020	< 0.5
M-53A	Downgradient	Alluvial	5/10/2016	2.4	750	2,400	< 2.0	--	2,500	7,800	< 0.00020	0.0018	--	0.021	< 0.0010	0.0014	0.0015	--	0.023	--	< 2.0	< 0.0010	< 0.20	< 0.00020	0.037	< 0.0010	< 0.00020	< 0.4
M-53A	Downgradient	Alluvial	8/26/2016	3.1	660	2,400	2.3	7.4	3,000	8,100	0.00010	0.0012	--	0.0092	< 0.0010	0.0017	0.00090	--	0.016	--	2.3	0.00057	0.20	< 0.00020	0.049	< 0.00050	< 0.00010	< 0.6
M-53A	Downgradient	Alluvial	8/26/2016	3.0	660	2,400	2.3	7.4	3,000	8,000	< 0.00010	0.0012	--	0.0094	< 0.0010	0.0018	0.0011	--	0.018	--	2.3	0.00057	0.20	< 0.00020	0.053	< 0.00050	< 0.00010	0.6
M-53A	Downgradient	Alluvial	9/22/2016	3.0	640	2,500	0.98	7.6	3,000	8,300	< 0.00050	0.0013	--	0.0092	< 0.0010	0.0016	0.0010	--	0.017	--	2.2	0.00062	0.21	< 0.00020	0.048	0.00066	< 0.00010	< 0.7
M-53A	Downgradient	Alluvial	2/21/2017	3.1	660	2,300	2.0	7.5	2,900	7,600	< 0.0010	0.00098	--	0.0091	< 0.0010	0.0015	0.0062	--	0.018	--	2.0	< 0.00050	0.21	< 0.00020	0.047	< 0.00050	< 0.00010	< 0.6
M-53A	Downgradient	Alluvial	4/12/2017	3.0	710	2,800	1.3	7.5	2,700	8,100	< 0.0010	0.0017	--	0.018	< 0.0010	0.0015	0.0038	--	0.018	--	1.3	0.00077	< 0.20	< 0.00020	0.037	0.00067	< 0.00010	0.6
M-53A	Downgradient	Alluvial	4/25/2017	2.6	740	2,500	1.3	7.4	2,700	7,900	< 0.0010	0.00083	--	0.013	< 0.0010	0.0018	0.0020	--	0.015	--	1.3	< 0.00050	< 0.20	< 0.00020	0.027	< 0.00050	< 0.00010	< 0.6
M-53A	Downgradient	Alluvial	5/18/2017	3.1	640	2,400	2.2	7.7	3,200	8,100	< 0.0010	0.00096	--	0.0079	< 0.0010	0.0014	0.0011	--	0.016	--	2.2	< 0.00050	0.21	< 0.00020	0.041	< 0.00050	< 0.00010	< 0.6
M-53A	Downgradient	Alluvial	5/24/2017	3.3	660	2,300	2.4	7.6	3,100	7,600	< 0.0010	0.0011	--	0.0083	< 0.0010	0.0015	0.0014	--	0.016	--	2.4	0.00052	0.20	< 0.00020	0.043	< 0.00050	< 0.00010	< 0.4
M-53A	Downgradient	Alluvial	7/1/2017	3.1	600	2,500	2.6	7.4	3,300	7,700	< 0.0010	0.0011	--	0.0085	< 0.0010	0.0014	0.0014	--	0.016	--	2.6	< 0.00050	0.20	< 0.00020	0.042	< 0.00050	< 0.00010	< 0.7
M-53A	Downgradient	Alluvial	7/28/2017	3.3	670	2,500	2.4	7.5	3,300	7,900	< 0.0020	0.0010	--	0.0087	< 0.0010	0.0014	0.0017	--	0.017	--	2.4	< 0.0010	0.20	< 0.00020	0.045	< 0.0010	< 0.00020	< 0.7
M-53A	Downgradient	Alluvial	9/7/2017	3.3	650	2,400	2.3	7.5	3,100	7,900	< 0.0040	< 0.0020	--	0.0086	< 0.0010	0.0015	< 0.0040	--	0.017	--	2.3	< 0.0020	0.20	< 0.00020	0.046	< 0.0020	< 0.00040	< 0.6
M-53A	Downgradient	Alluvial	12/7/2017	3.2	630	2,400	2.3	7.6	3,000	7,900	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	2/15/2018	--	--	--	1.4	--	--	--	< 0.0010	0.00076	--	0.018	< 0.0010	0.0012	0.0010	--	0.011	--	1.4	< 0.00050	< 0.20	< 0.00020	0.0059	0.00057	0.00012	0.4
M-53A	Downgradient	Alluvial	5/20/2018	3.2	600	2,300	2.6	7.4	3,100	7,900	< 0.0010	0.0011	--	0.0090	--	0.0012	0.0015	--	0.015	--	2.6	< 0.00050	< 0.20	--	0.044	< 0.00050	< 0.00010	< 0.7
M-53A	Downgradient	Alluvial	5/20/2018	3.3	620	2,400	2.4	7.4	3,400	7,800	< 0.0010	0.0011	--	0.0091	--	0.0013	0.0015	--	0.016	--	2.4	< 0.00050	< 0.20	--	0.045	< 0.00050	0.00015	< 0.7
M-53A	Downgradient	Alluvial	10/26/2018	3.2	620	2,200	2.1	7.5	2,900	7,500	--	0.0012	--	0.0081	--	0.0013	0.0019	--	0.013	--	2.1	< 0.00050	< 0.20	--	0.042	< 0.00050	< 0.00010	--
M-53A	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
M-53A	Downgradient	Alluvial	12/7/2018	3.3	600	2,300	2.3 J,UJ	7.4 J	3,100	8,000	< 0.0050	< 0.0020	--	0.0087	--	0.0012	< 0.0050	--	0.013	--	2.3 J,UJ	0.0014	< 0.20	< 0.00020	0.039	< 0.0060	< 0.0010	0.9
M-53A	Downgradient	Alluvial	12/7/2018	3.4	620	2,300	2.3 J,UJ	7.4 J	3,000	7,600	< 0.0050	< 0.0020	--	0.0085	--	0.0014	< 0.0050	--	0.014	--	2.3 J,UJ	< 0.0010	0.20	< 0.00020	0.042	< 0.0060	< 0.0010	1.1
M-53A	Downgradient	Alluvial	2/15/2019	--	--	--	1.2	--	--	--	< 0.0010	0.00064	--	0.013	< 0.0010	0.0011	0.0025	--	0.011	--	1.2	< 0.00050	0.21	< 0.00020	0.0067	0.00078	< 0.00010	0.8
M-53A	Downgradient	Alluvial	4/17/2019	--	--	--	2.1	--	--	--	--	0.0011	--	0.0085	--	0.0012	0.0014	--	0.014	--	2.1	< 0.00050	< 0.20	--	0.043	< 0.00050	< 0.00010	< 0.7
M-53A	Downgradient	Alluvial	8/1/2019	3.2	590	2,200	2.3	7.5 J	2,900	7,800	--	--	--	--	--	--	--	--	--	--	2.3	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	10/23/2019	3.3	590	2,200 J	2.2 J	7.5 J	2,900 J	7,900 J	< 0.0020	0.0018	--	0.0099	< 0.0010	0.0015	< 0.0020	--	0.013	--	2.2 J	< 0.0010	< 0.20	< 0.00020	0.044	0.0011	0.00022	--
M-53A	Downgradient	Alluvial	4/19/2020	3.7	620	2,300	2.1	7.4 J	3,000	7,800	--	< 0.0025	< 0.0025	0.0088	0.00050 J	0.0012	< 0.005	--	0.014	0.014	2.1	< 0.0005	0.27 J	--	0.039	< 0.0025	< 0.0001	--
M-53A	Downgradient	Alluvial	4/19/2020	3.7	610	2,400	2.1	7.5 J	3,100	8,200	--	< 0.0025	< 0.0025	0.0087	0.00055 J	0.0012	< 0.005	--	0.014	0.016	2.1	< 0.0005	< 0.2	--	0.038	< 0.0025	< 0.0001	--
M-53A	Downgradient	Alluvial	10/22/2020	3.6	630	2,400	2.5	7.5 J	3,000	7,500	< 0.002 U	0.0030	0.0028	0.0096	< 0.001	0.0011	0.0021	--	0.011	0.012	2.5	0.00045 J	0.21	< 0.0002	0.036	0.00048 J	0.00011 J	< 0.8
M-53A	Downgradient	Alluvial	4/17/2021	3.2	670	2,400	2.1	7.3 J	3,100	7,800	< 0.002	0.0019 J	0.0012	0.0083	< 0.001	0.00093	0.0020	--	0.012	0.012	2.1	< 0.001	0.21	< 0.0002	0.029	0.0010	< 0.0002	<0.8
M-53A	Downgradient	Alluvial	4/17/2021	3.2	680	2,200	2.1	7.3 J	2,900	7,500	< 0.002	0.0024	0.0013	0.0083	< 0.001	0.00079	0.0017 J	--	0.012	0.012	2.1	< 0.001	0.21	< 0.0002	0.027	0.00096 J	< 0.0002	<0.7
M-53A	Downgradient	Alluvial	10/28/2021	3.6	620	3,700	2.1	7.5 J	6,000	7,000	< 0.002 U	0.0013	0.0016	0.010	< 0.001	0.0012	0.0018 J	--	0.012	0.010	2.1	0.00048 J	0.23	< 0.0002	0.039	0.0011	0.00058	< 0.6

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
M-55A	Supplementary	Alluvial	12/1/2015	**0.40**	**630**	**2,300**	**0.57**	**7.33**	**3,800**	**8,900**	< 0.0025	**0.0030**	--	**0.046**	< 0.0010	< 0.00010	**0.0017**	--	**0.00071**	--	**0.57**	**0.00094**	**0.33**	< 0.00020	**0.0048**	**0.082**	< 0.00010	< 0.9
M-55A	Supplementary	Alluvial	3/9/2016	**0.39**	**630**	**2,900**	< 0.80	**7.49**	**3,500**	**9,600**	< 0.015	< 0.0049	--	**0.021**	< 0.0010	< 0.00046	< 0.0087	--	< 0.0013	--	< 0.80	< 0.0044	**0.31**	< 0.00020	< 0.0040	**0.069**	< 0.00026	**0.2**
M-55A	Supplementary	Alluvial	5/10/2016	**0.41**	**620**	**2,900**	< 2.0	--	**3,400**	**9,900**	**0.00029**	**0.0028**	--	**0.016**	< 0.0010	< 0.00020	**0.0017**	--	< 0.0010	--	< 2.0	< 0.0010	**0.34**	< 0.00020	**0.0031**	**0.075**	< 0.00020	< 0.5
M-55A	Supplementary	Alluvial	8/26/2016	**0.43**	**660**	**3,200**	< 0.80	**7.3**	**3,500**	**10,000**	**0.00047**	**0.0033**	--	**0.017**	< 0.0010	**0.00019**	**0.0013**	--	< 0.00050	--	< 0.80	< 0.00050	**0.33**	< 0.00020	**0.043**	**0.087**	< 0.00010	< 0.6
M-55A	Supplementary	Alluvial	9/22/2016	**0.42**	**630**	**3,400**	< 0.80	**7.7**	**3,700**	**11,000**	< 0.00050	**0.00082**	--	**0.014**	< 0.0010	< 0.00010	**0.0091**	--	**0.00074**	--	< 0.80	< 0.00010	**0.36**	< 0.00020	**0.0059**	**0.065**	< 0.00010	**0.8**
M-55A	Supplementary	Alluvial	2/21/2017	**0.40**	**660**	**3,500**	< 0.80	**7.5**	**3,400**	**10,000**	< 0.0010	**0.0023**	--	**0.014**	< 0.0010	< 0.00010	**0.018**	--	**0.00057**	--	< 0.80	< 0.00050	**0.38**	< 0.00020	**0.0068**	**0.079**	< 0.00010	< 0.6
M-55A	Supplementary	Alluvial	4/12/2017	**0.40**	**670**	**3,800**	< 0.80	**7.5**	**3,500**	**11,000**	< 0.0010	**0.0025**	--	**0.014**	< 0.0010	< 0.00010	**0.014**	--	< 0.00050	--	< 0.80	< 0.00050	**0.35**	< 0.00020	**0.0055**	**0.082**	**0.00010**	**1.4**
M-55A	Supplementary	Alluvial	4/25/2017	**0.44**	**680**	**3,600**	< 0.80	**7.3**	**3,500**	**10,000**	< 0.0010	**0.0025**	--	**0.013**	< 0.0010	< 0.00010	**0.020**	--	< 0.00050	--	< 0.80	< 0.00050	**0.37**	< 0.00020	**0.0065**	**0.080**	< 0.00010	**1.0**
M-55A	Supplementary	Alluvial	5/18/2017	**0.41**	**670**	**3,800**	< 0.80	**7.6**	**3,700**	**10,000**	< 0.0010	**0.0021**	--	**0.011**	< 0.0010	< 0.00010	**0.023**	--	< 0.00050	--	< 0.80	< 0.00050	**0.37**	< 0.00020	**0.0061**	**0.075**	< 0.00010	**1.1**
M-55A	Supplementary	Alluvial	5/24/2017	**0.42**	**690**	**3,700**	< 0.80	**7.4**	**3,500**	**10,000**	< 0.0010	**0.0031**	--	**0.014**	< 0.0010	< 0.00010	**0.024**	--	< 0.00050	--	< 0.80	< 0.00050	**0.37**	< 0.00020	**0.0059**	**0.090**	< 0.00010	**1.5**
M-55A	Supplementary	Alluvial	7/1/2017	**0.42**	**650**	**3,900**	< 0.80	**7.4**	**3,700**	**11,000**	< 0.0010	**0.0034**	--	**0.014**	< 0.0010	< 0.00010	**0.017**	--	**0.0016**	--	< 0.80	< 0.00050	**0.35**	< 0.00020	**0.022**	**0.095**	< 0.00010	**0.9**
M-55A	Supplementary	Alluvial	7/28/2017	**0.44**	**710**	**4,100**	< 0.80	**7.3**	**3,800**	**11,000**	< 0.0020	**0.0031**	--	**0.014**	< 0.0010	< 0.00020	**0.051**	--	**0.0040**	--	< 0.80	< 0.0010	**0.35**	< 0.00020	**0.0091**	**0.085**	< 0.00020	< 0.7
M-55A	Supplementary	Alluvial	9/7/2017	**0.45**	**710**	**3,900**	< 0.80	**7.3**	**3,600**	**11,000**	< 0.0040	**0.0022**	--	**0.014**	< 0.0010	< 0.00040	**0.038**	--	< 0.0020	--	< 0.80	< 0.0020	**0.37**	< 0.00020	**0.0075**	**0.082**	< 0.00040	**1.2**
M-55A	Supplementary	Alluvial	12/8/2018	**0.43**	**700**	**4,300**	< 0.80 J,UJ	**7.3 J**	**3,400**	**11,000**	< 0.0050	< 0.0020	--	**0.014**	--	< 0.0010	**0.17**	--	< 0.0020	--	< 0.80 J,UJ	< 0.0010	**0.39**	< 0.00020	**0.020**	**0.083**	< 0.0010	**0.9**
M-55A	Supplementary	Alluvial	2/15/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.0033**	--	**0.014**	< 0.0010	< 0.00010	**0.14**	--	**0.00095**	--	< 0.80	< 0.00050	**0.43**	< 0.00020	**0.019**	**0.13**	< 0.00010	**1.2**
M-55A	Supplementary	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.0025**	--	**0.014**	--	< 0.00010	**0.044**	--	**0.00083**	--	< 0.80	< 0.00050	**0.37**	--	**0.0067**	**0.12**	< 0.00010	--
M-55A	Supplementary	Alluvial	8/1/2019	**0.41**	**680**	**4,200**	< 0.8	**7.3 J**	**3,300**	**11,000**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
M-55A	Supplementary	Alluvial	10/24/2019	**0.40**	**670**	**4,300**	< 0.80	**7.4 J**	**3,400**	**12,000**	< 0.0020	**0.0023**	--	**0.016**	< 0.0010	< 0.00020	**0.0044**	--	< 0.0010	--	< 0.80	< 0.0010	**0.38**	< 0.00020	**0.0051**	**0.078**	< 0.00020	--
M-55A	Supplementary	Alluvial	4/17/2020	**0.46**	**700**	**4,600**	< 0.8	**7.5 J**	**3,500**	**11,000**	--	**0.0071**	**0.0050**	**0.014**	**0.00059 J**	< 0.0005	**0.016**	--	< 0.0025	< 0.0025	< 0.8	< 0.0005	< 0.2	--	**0.0048**	**0.12**	< 0.0001	--
M-55A	Supplementary	Alluvial	10/24/2020	**0.39**	**730**	**4,700**	**0.49 J**	**7.4 J**	**3,500**	**11,000**	< 0.002 U	**0.0070**	**0.0052**	**0.016**	< 0.001	**0.00009 J**	**0.015**	--	**0.00017 J**	**0.0005 J**	**0.49 J**	< 0.001	**0.43**	< 0.0002	**0.0043**	**0.11**	**0.000072 J**	< 0.8
M-55A	Supplementary	Alluvial	4/18/2021	**0.40**	**750**	**4,500**	**0.58 J**	**7.4 J**	**3,500**	**10,000**	**0.00026 J**	**0.0021**	**0.0018**	**0.015**	< 0.001	< 0.0002	**0.0068**	--	< 0.001	< 0.001	**0.58 J**	< 0.001	**0.45**	< 0.0002	**0.0047**	**0.13**	< 0.0002	<0.8
M-55A	Supplementary	Alluvial	10/27/2021	**0.41**	**700**	**4,100**	**0.59 J**	**7.5 J**	**3,400**	**11,000**	< 0.002 U	**0.0012**	**0.0016**	**0.016**	< 0.001	**0.000052 J**	**0.0043**	--	**0.0002 J**	**0.00011 J**	**0.59 J**	< 0.001	**0.47**	< 0.0002	**0.0052**	**0.16**	**0.00017 J**	**0.9**

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
MW-69A	Supplementary	Alluvial	4/19/2020	**3.7**	**630**	**2,500**	**1.5**	**7.5 J**	**3,000**	**8,000**	--	< 0.0025	< 0.0025	**0.027**	**0.00052 J**	**0.00011**	< 0.005	--	**0.027**	**0.026**	**1.5**	< 0.0005	< 0.2	--	**0.055**	< 0.0025	< 0.0001	--
MW-69A	Supplementary	Alluvial	10/23/2020	**3.1**	**660**	**2,500**	**1.5**	**7.5 J**	**3,000**	**7,800**	< 0.01	**0.0099**	**0.0047**	**0.024**	< 0.001	< 0.001	< 0.01	--	**0.025**	**0.027**	**1.5**	< 0.005	**0.19**	< 0.0002	**0.047**	**0.0089**	< 0.001	< 0.8
MW-69A	Supplementary	Alluvial	4/17/2021	**3.3**	**690**	**2,500**	**1.3**	**7.3 J**	**3,100**	**8,100**	< 0.002	**0.0023**	**0.00081 J**	**0.019**	< 0.001	< 0.0002	**0.0086**	--	**0.017**	**0.015**	**1.3**	< 0.001	**0.21**	< 0.0002	**0.020**	**0.0011**	< 0.0002	<0.8
MW-69A	Supplementary	Alluvial	10/29/2021	**3.2**	**670**	**3,100**	**1.1**	**7.3 J**	**4,300**	**7,100**	< 0.002	**0.00096 J**	**0.0012**	**0.021**	< 0.001	**0.00016 J**	**0.012**	--	**0.022**	**0.019**	**1.1**	< 0.001	**0.20**	< 0.0002	**0.040**	**0.0022**	< 0.0002 U	**0.6**
MW-70M	Supplementary	Moqui	4/19/2020	**2.4**	**640**	**2,400**	**1.2**	**7.5 J**	**2,700**	**7,400**	--	< 0.0025	< 0.0025	**0.014**	< 0.0005	**0.00053**	< 0.005	--	**0.025**	**0.024**	**1.2**	**0.0023**	< 0.2	--	**0.034**	< 0.0025	< 0.0001	--
MW-70M	Supplementary	Moqui	10/23/2020	**2.1**	**660**	**2,200**	**1.1**	**7.4 J**	**2,600**	**6,900**	< 0.002	**0.0013 J**	**0.0032 J**	**0.013**	< 0.001	**0.00038**	< 0.002	--	**0.022**	**0.023**	**1.1**	**0.0025**	**0.20**	< 0.0002	**0.031**	**0.0028**	**0.000032 J**	< 0.8
MW-70M	Supplementary	Moqui	10/23/2020	**2.1**	**680**	**2,200**	**1.1**	**7.4 J**	**2,600**	**6,900**	< 0.002	**0.0020**	**0.0013 J**	**0.013**	< 0.001	**0.00042**	**0.0014 J**	--	**0.022**	**0.021**	**1.1**	**0.0022**	**0.19**	< 0.0002	**0.030**	**0.0027**	< 0.0002	< 0.8
MW-70M	Supplementary	Moqui	4/17/2021	**2.2**	**680**	**2,200**	**1.2**	**7.4 J**	**2,700**	**7,300**	< 0.002	**0.0016 J**	**0.00099 J**	**0.013**	< 0.001	< 0.0002	**0.0010 J**	--	**0.023**	**0.023**	**1.2**	**0.0016**	**0.20**	< 0.0002	**0.034**	**0.0019**	< 0.0002	<0.8
MW-70M	Supplementary	Moqui	10/29/2021	**2.2**	**650**	**4,600**	**0.97**	**7.5 J**	**5,900**	**7,000**	< 0.002	< 0.002	**0.0011**	**0.012**	< 0.001	**0.00053**	**0.0018 J**	--	**0.021**	**0.021**	**0.97**	**0.0024**	**0.19**	< 0.0002	**0.034**	**0.0048**	**0.000092 J**	**0.6**
MW-71A	Downgradient	Alluvial	10/30/2021	**3.4**	**690**	**2,500**	**3.0**	**7.6 J**	**3,900**	**7,300**	< 0.002	**0.00092 J**	**0.0013**	**0.014**	< 0.001	**0.00025**	**0.0011 J**	--	**0.020**	**0.017**	**3.0**	< 0.001	**0.20**	< 0.0002	**0.04**	**0.0032**	< 0.0002 U	**0.8**
MW-72M	Downgradient	Moqui	10/30/2021	**0.50**	**8,200**	**34,000**	**0.098 J**	**7.1 J**	**2,200**	**48,000**	**0.00068 J**	**0.015**	**0.016**	**0.21**	< 0.002	**0.00039**	**0.0023**	--	**0.0082**	**0.0083**	**0.098 J**	< 0.001	**4.2**	< 0.0002	**0.025**	**0.0069**	**0.0013**	**11.2**
MW-73A	Downgradient	Alluvial	10/30/2021	**4.5**	**880**	**4,200**	**3.7**	**7.3 J**	**4,100**	**9,900**	< 0.002 U	**0.0025**	**0.0026**	**0.022**	< 0.001	**0.00015 J**	**0.0015 J**	--	**0.013**	**0.013**	**3.7**	**0.0015**	**0.27**	< 0.0002	**0.031**	**0.0034**	< 0.0002 U	**0.5**
MW-74M	Downgradient	Moqui	9/29/2021	**1.8**	**740**	**2,200**	**0.86**	--	**2,800**	**7,000 J**	--	**0.00053**	--	--	--	--	--	--	**0.021**	--	**0.86**	--	**0.26**	--	**0.040**	--	--	--
MW-74M	Downgradient	Moqui	10/30/2021	**1.8**	**710**	**2,200**	**0.85**	**7.4 J**	**2,800**	**6,600**	< 0.002	**0.0017**	**0.0012**	**0.016**	< 0.001	**0.00022**	**0.0019 J**	--	**0.020**	**0.017**	**0.85**	**0.0015**	**0.24**	< 0.0002	**0.051**	**0.0025**	**0.00014 J**	< 0.6
MW-77A	Downgradient	Alluvial	6/3/2021	**0.70**	**600**	**3,600**	**0.56**	--	**3,800**	**11,000 J**	**0.00018 J**	**0.0021**	--	**0.0092**	< 0.001	**0.000083 J**	**0.00046 J**	--	**0.0039**	--	**0.56**	**0.0017**	**0.50**	--	**0.0054**	**0.0034**	**0.00022**	--
MW-77A	Downgradient	Alluvial	6/15/2021	**0.73**	**590**	**3,200**	**0.36 J**	--	**4,100**	**11,000**	--	**0.0020**	--	--	--	--	--	--	**0.0041**	--	**0.36 J**	--	**0.52**	--	**0.019**	--	--	--
MW-77A	Downgradient	Alluvial	8/2/2021	**0.82**	**550**	**3,300**	**0.33 J**	**7.3 J**	**4,200**	**11,000**	< 0.001 U	**0.0022**	**0.0024**	**0.0092**	< 0.001	**0.000095 J**	< 0.001	--	**0.0039**	**0.0042**	**0.33 J**	< 0.0005	**0.53**	< 0.0002	**0.0050**	**0.0017**	< 0.0001	< 0.6
MW-77A	Downgradient	Alluvial	10/28/2021	**0.73**	**580**	**3,900**	**0.32 J**	**7.4 J**	**5,000**	**11,000**	< 0.002	**0.0018**	**0.0028**	**0.0091**	< 0.001	< 0.0002	**0.0013 J**	--	**0.0046**	**0.0042**	**0.32 J**	< 0.001	**0.50**	< 0.0002	**0.0053**	**0.0039**	< 0.0002 U	< 0.6
MW-78A	Downgradient	Alluvial	6/8/2021	**0.48**	**710**	**2,600**	**0.51**	--	**2,200**	**7,700**	**0.00027 J**	**0.0023**	--	**0.11**	< 0.001	**0.000056 J**	**0.0029**	--	**0.0025**	--	**0.51**	**0.0042**	**0.25**	--	**0.0083**	**0.0012**	**0.000077 J**	--
MW-78A	Downgradient	Alluvial	6/14/2021	**0.41**	**720**	**2,800**	**0.38 J**	--	**2,400**	**8,100**	--	**0.0015**	--	--	--	--	--	--	**0.0021**	--	**0.38 J**	--	**0.24**	--	**0.016**	--	--	--
MW-78A	Downgradient	Alluvial	8/2/2021	**0.43**	**690**	**2,700**	**0.39 J**	**7.3 J**	**2,400**	**8,000**	< 0.001 U	**0.0021**	**0.0024**	**0.014**	< 0.001	**0.00022**	< 0.001	--	**0.0017**	**0.0016**	**0.39 J**	< 0.0005	**0.25**	< 0.0002	**0.0079**	**0.00068**	< 0.0001 U	< 0.6
MW-78A	Downgradient	Alluvial	10/28/2021	**0.41**	**710**	**3,000**	**0.36 J**	**7.3 J**	**2,600**	**7,400**	< 0.002 U	**0.0023**	**0.0021**	**0.013**	< 0.001	< 0.0002	< 0.002	--	**0.0020**	**0.0018**	**0.36 J**	< 0.001	**0.24**	< 0.0002	**0.0079**	**0.0018**	**0.00008 J**	< 0.6
MW-79A	Downgradient	Alluvial	6/14/2021	**0.33**	**750**	**2,200**	**0.54 J**	--	**2,400**	**5,600**	--	**0.0019**	--	--	--	--	--	--	**0.0061**	--	**0.54 J**	--	**0.14**	--	**0.10**	--	--	--
MW-79A	Downgradient	Alluvial	6/24/2021	**0.34**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0087**	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	6/24/2021	**0.35**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0091**	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	6/25/2021	**0.33**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.0089**	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	8/2/2021	**0.34**	**730**	**2,200**	**0.52 J**	**7.3 J**	**2,300**	**7,200**	< 0.001 U	< 0.0016 U	**0.0018**	**0.013**	**0.00052 J**	**0.000041 J**	< 0.001	--	**0.0077**	**0.0078**	**0.52 J**	< 0.0005	**0.16**	< 0.0002	**0.013**	**0.00071**	< 0.0001	< 0.6
MW-79A	Downgradient	Alluvial	10/25/2021	**0.33**	**740**	**2,400**	**0.51 J**	**7.3 J**	**2,600**	**6,900 J**	< 0.002	**0.0016**	**0.0014**	**0.012**	< 0.001	< 0.0002	< 0.002	--	**0.011**	**0.0081**	**0.51 J**	< 0.001	**0.15**	< 0.0002	**0.016**	**0.0017**	< 0.0002	< 0.6
MW-79A	Downgradient	Alluvial	10/25/2021	**0.33**	**750**	**2,400**	**0.51 J**	**7.4 J**	**2,500**	**7,300 J**	< 0.002 U	**0.0016**	**0.0012**	**0.011**	< 0.001	**0.000084 J**	< 0.002	--	**0.0091**	**0.0074**	**0.51 J**	< 0.001	**0.16**	< 0.0002	**0.016**	**0.0020**	< 0.0002 U	**0.4**

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																		
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-301	Supplementary	Alluvial	12/7/2018	**2.4**	**760**	**4,000**	< 0.80 J,UJ	**7.2 J**	**3,300**	**10,000**	< 0.0050	< 0.0020	--	**0.013**	--	< 0.0010	< 0.0050	--	**0.017**	--	< 0.80 J,UJ	**0.0012**	**0.43**	< 0.00020	**0.080**	< 0.0060	< 0.0010	< 0.7
W-301	Supplementary	Alluvial	2/15/2019	--	--	--	< 0.40 UJ	--	--	--	< 0.0010	**0.0017**	--	**0.0080**	< 0.0010	**0.00018**	< 0.0010	--	**0.018**	--	< 0.40 UJ	< 0.00050	**0.59**	< 0.00020	**0.0046**	**0.0084**	< 0.00010	**0.7**
W-301	Supplementary	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.0019**	--	**0.0083**	--	**0.00014**	**0.0017**	--	**0.018**	--	< 0.80	< 0.00050	**0.50**	--	**0.0051**	**0.0076**	< 0.00010	--
W-301	Supplementary	Alluvial	8/9/2019	**0.72**	**810**	**6,200**	< 0.8	**7.2 J**	**3,500**	**14,000**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-301	Supplementary	Alluvial	10/23/2019	**0.65**	**760**	**6,300 J**	< 0.80 UJ	**7.3 J**	**3,600 J**	**14,000 J**	< 0.0020	**0.0030**	--	**0.0092**	< 0.0010	< 0.00020	< 0.0040	--	**0.016**	--	< 0.80 UJ	< 0.0010	**0.52**	< 0.00020	**0.0069**	**0.0056**	< 0.00020	--
W-301	Supplementary	Alluvial	4/18/2020	**0.70**	**690**	**6,400**	< 0.8	**7.4 J**	**3,600**	**14,000**	--	< 0.0025	< 0.0025	**0.0082**	**0.00063 J**	< 0.0005	< 0.005	--	**0.021**	**0.022**	< 0.8	< 0.0005	**0.41 J**	--	**0.0051**	**0.0060**	< 0.0001	--
W-301	Supplementary	Alluvial	10/22/2020	**0.58**	**780**	**6,600**	**0.33 J**	**7.4 J**	**3,800**	**13,000**	< 0.002	**0.0032**	**0.0017 J**	**0.0083**	< 0.001	**0.00016 J**	**0.00089 J**	--	**0.022**	**0.022**	**0.33 J**	< 0.001	**0.57**	< 0.0002	**0.0057**	**0.0035**	**0.000086 J**	< 0.8
W-301	Supplementary	Alluvial	4/17/2021	**0.60**	**800**	**6,200**	**0.34 J**	**7.4 J**	**3,700**	**14,000**	< 0.002	**0.0028**	**0.0020**	**0.0093**	< 0.001	< 0.0002	**0.029**	--	**0.023**	**0.022**	**0.34 J**	< 0.001	**0.58**	< 0.0002	**0.0093**	**0.0072**	< 0.0002	<0.8
W-301	Supplementary	Alluvial	10/28/2021	**0.60**	**770**	**6,400**	**0.13 J**	**7.4 J**	**4,000**	**14,000**	< 0.002 U	**0.0025**	**0.0026**	**0.0085**	< 0.001	**0.00017 J**	**0.0091**	--	**0.025**	**0.021**	**0.13 J**	< 0.001	**0.57**	< 0.0002	**0.0074**	**0.0071**	**0.000086 J**	**0.5**
W-302	Supplementary	Alluvial	12/7/2018	**0.64**	**560**	**2,600**	**0.98 J,UJ**	**7.3 J**	**2,400**	**7,200**	< 0.0050	< 0.0020	--	**0.014**	--	< 0.0010	< 0.0050	--	**0.0049**	--	**0.98 J,UJ**	< 0.0010	**0.32**	< 0.00020	**0.068**	< 0.0060	< 0.0010	< 0.7
W-302	Supplementary	Alluvial	2/15/2019	--	--	--	**0.88**	--	--	--	< 0.0010	**0.0043**	--	**0.36**	< 0.0010	**0.00089**	**0.020**	--	**0.022**	--	**0.88**	**0.028**	**0.37**	**0.00022**	**0.0039**	**0.0035**	**0.00016**	**0.7**
W-302	Supplementary	Alluvial	4/17/2019	--	--	--	**0.82**	--	--	--	--	**0.00076**	--	**0.015**	--	< 0.00010	< 0.0010	--	**0.0054**	--	**0.82**	< 0.00050	**0.31**	--	**0.016**	< 0.00050	< 0.00010	--
W-302	Supplementary	Alluvial	8/9/2019	**0.66**	**610**	**2,700**	**0.80**	**7.3 J**	**2,300**	**7,700**	--	--	--	--	--	--	--	--	--	--	**0.80**	--	--	--	--	--	--	--
W-302	Supplementary	Alluvial	10/23/2019	**0.59**	**570**	**2,700 J**	**0.80 J**	**7.4 J**	**2,300 J**	**8,000 J**	< 0.0020	**0.0015**	--	**0.014**	< 0.0010	< 0.00020	**0.019**	--	**0.0055**	--	**0.80 J**	< 0.0010	**0.32**	< 0.00020	**0.015**	< 0.0010	< 0.00020	--
W-302	Supplementary	Alluvial	4/17/2020	**0.64**	**590**	**3,000**	**0.97**	**7.4 J**	**2,300**	**8,100**	--	< 0.0025	< 0.0025	**0.013**	< 0.0005	< 0.0005	**0.086**	--	**0.0064**	**0.0064**	**0.97**	< 0.0005	< 0.2	--	**0.012**	< 0.0025	< 0.0001	--
W-302	Supplementary	Alluvial	10/23/2020	**0.57**	**640**	**3,200**	**0.82**	**7.3 J**	**2,300**	**7,700**	< 0.002	**0.0013**	**0.0015 J**	**0.014**	< 0.001	< 0.0002	**0.031**	--	**0.0052**	**0.0056**	**0.82**	**0.00066 J**	**0.37**	< 0.0002	**0.0085**	**0.00051 J**	**0.000028 J**	< 0.8
W-302	Supplementary	Alluvial	4/17/2021	**0.60**	**680**	**3,100**	**0.95**	**7.4 J**	**2,200**	**8,000**	< 0.002	**0.0021**	**0.0013**	**0.014**	< 0.001	< 0.0002	**0.025**	--	**0.0048**	**0.0047**	**0.95**	< 0.001	**0.40**	< 0.0002	**0.0084**	**0.0011**	< 0.0002	<0.8
W-302	Supplementary	Alluvial	10/30/2021	**0.58**	**690**	**3,500**	**0.72 J**	**7.4 J**	**2,400**	**7,300**	< 0.002	**0.0017**	**0.0017**	**0.015**	< 0.001	< 0.0002	**0.050**	--	**0.0064**	**0.0056**	**0.72 J**	< 0.001	**0.39**	< 0.0002	**0.013**	**0.0022**	< 0.0002 U	**0.6**
W-303	Supplementary	Moqui	4/18/2020	**3.7**	**620**	**2,800**	< 0.80	**7.5**	**3,300**	**8,900**	--	< 0.0025	< 0.0025	**0.0048**	< 0.0010	< 0.00025	< 0.0050	--	**0.027**	--	< 0.8	< 0.0005	< 0.2	--	**0.024**	< 0.0025	< 0.0001	--
W-303	Supplementary	Moqui	10/22/2020	**3.2**	**660**	**2,800**	**0.48 J**	**7.4 J**	**3,400**	**8,600**	< 0.002 U	**0.0014**	**0.0023**	**0.0046**	< 0.001	**0.000088 J**	**0.025**	--	**0.021**	**0.023**	**0.48 J**	< 0.001	**0.32**	< 0.0002	**0.019**	**0.00072 J**	< 0.0002	**0.8**
W-303	Supplementary	Moqui	4/17/2021	**3.4**	**650**	**2,700**	**0.50 J**	**7.5 J**	**3,400**	**8,700**	< 0.002	**0.0019 J**	**0.0013**	**0.0046**	< 0.001	< 0.0002	**0.036**	--	**0.022**	**0.023**	**0.50 J**	< 0.001	**0.33**	< 0.0002	**0.050**	**0.0019**	< 0.0002	<0.8
W-303	Supplementary	Moqui	10/28/2021	**3.5**	**690**	**3,200**	**0.32 J**	**7.5 J**	**4,000**	**10,000**	< 0.002	**0.0018**	**0.0018**	**0.0034**	< 0.001	**0.00061**	**0.010**	--	**0.022**	**0.019**	**0.32 J**	< 0.001	**0.39**	< 0.0002	**0.059**	**0.0027**	< 0.0002 U	< 0.6
W-304	Supplementary	Alluvial	12/7/2018	**0.50**	**590**	**2,900**	< 0.80 J,UJ	**7.3 J**	**2,900**	**8,100**	< 0.0050	< 0.0020	--	**0.0083**	--	< 0.0010	< 0.0050	--	**0.0034**	--	< 0.80 J,UJ	< 0.0010	**0.40**	< 0.00020	**0.026**	< 0.0060	< 0.0010	< 0.7
W-304	Supplementary	Alluvial	2/15/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.0020**	--	**0.011**	< 0.0010	< 0.00010	< 0.0010	--	**0.0029**	--	< 0.80	< 0.00050	**0.48**	< 0.00020	**0.0017**	**0.00059**	< 0.00010	< 0.6
W-304	Supplementary	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	< 0.00050	--	**0.0089**	--	< 0.00010	< 0.0010	--	**0.0020**	--	< 0.80	< 0.00050	**0.41**	--	**0.0048**	**0.00066**	< 0.00010	--
W-304	Supplementary	Alluvial	8/8/2019	**0.54**	**630**	**3,200**	< 0.8	**7.3 J**	**3,000**	**8,700**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-304	Supplementary	Alluvial	10/24/2019	**0.52**	**610**	**3,400 J**	< 0.80 UJ	**7.4 J**	**2,900 J**	**9,200 J**	< 0.0010	**0.00093**	--	**0.015**	< 0.0010	< 0.00010	**0.0016**	--	**0.0029**	--	< 0.80 UJ	< 0.00050	**0.45**	< 0.00020	**0.0036**	< 0.00050	< 0.00010	--
W-304	Supplementary	Alluvial	10/24/2019	**0.52**	**610**	**3,300**	< 0.80	**7.4 J**	**2,900**	**9,100**	< 0.0020	**0.0014**	--	**0.014**	< 0.0010	< 0.00020	< 0.0020	--	**0.0028**	--	< 0.80	< 0.0010	**0.45**	< 0.00020	**0.0042**	**0.0012**	< 0.00020	--
W-304	Supplementary	Alluvial	4/17/2020	**0.52**	**570**	**2,700**	< 0.8	**7.4 J**	**2,600**	**8,400**	--	< 0.0025	**0.0029**	**0.0069**	< 0.0005	< 0.0005	< 0.005	--	**0.0030**	**0.0032**	< 0.8	< 0.0005	**0.46 J**	--	**0.0046**	< 0.0025	< 0.0001	--
W-304	Supplementary	Alluvial	10/23/2020	**0.44**	**600**	**3,000**	**0.25 J**	**7.4 J**	**2,900**	**8,500**	< 0.002	**0.0010**	< 0.002	**0.0091**	< 0.001	< 0.0002	**0.0013 J**	--	**0.0029**	**0.0034**	**0.25 J**	< 0.001	**0.45**	< 0.0002	**0.0028**	**0.00021 J**	**0.000028 J**	< 0.8
W-304	Supplementary	Alluvial	4/18/2021	**0.45**	**600**	**2,800**	**0.24 J**	**7.4 J**	**2,800**	**8,000**	< 0.002	**0.0016 J**	**0.00072 J**	**0.0076**	< 0.001	< 0.0002	**0.0079**	--	**0.0040**	**0.0036**	**0.24 J**	< 0.001	**0.42**	< 0.0002	**0.0046**	**0.0016**	< 0.0002	<0.8
W-304	Supplementary	Alluvial	10/28/2021	**0.42**	**600**	**2,600**	**0.16 J**	**7.5 J**	**2,800**	**6,900**	< 0.002	**0.00098 J**	**0.00090**	**0.0070**	< 0.001	**0.000046 J**	**0.0038**	--	**0.0070**	**0.0060**	**0.16 J**	< 0.001	**0.39**	< 0.0002	**0.004**	**0.0023**	< 0.0002 U	< 0.6

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	*--*	*--*	*--*	*--*	*--*	*--*	*--*	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-305	Downgradient	Alluvial	12/2/2015	**0.32**	**770**	**2,600**	**1.4**	**7.05**	**2,300**	**7,000**	< 0.0025	**0.00088**	--	**0.013**	< 0.0010	**0.00022**	**0.00066**	--	**0.0100**	--	**1.4**	**0.0017**	**0.23**	< 0.00020	**0.016**	**0.00024**	< 0.00020	--
W-305	Downgradient	Alluvial	3/9/2016	**0.3**	**690**	**2,300**	< 0.80	**7.32**	**2,300**	**7,000**	< 0.050	< 0.01	--	**0.0083**	< 0.0010	< 0.0020	< 0.010	--	**0.0160**	--	< 0.8	< 0.01	**0.21**	< 0.00020	**0.017**	< 0.01	< 0.02	--
W-305	Downgradient	Alluvial	5/11/2016	**0.29**	**710**	**2,100**	< 2.0	--	**2,200**	**7,000**	< 0.00010	**0.00058**	--	**0.0059**	< 0.0010	**0.00012**	< 0.00050	--	**0.0140**	--	< 2.0	< 0.00050	**0.21**	< 0.00020	**0.014**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	8/27/2016	**0.31**	**720**	**2,200**	< 0.80	**7.3**	**2,400**	**7,200**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	9/22/2016	**0.32**	**700**	**2,300**	< 2.0	**7.6**	**2,400**	**7,400**	< 0.0005	**0.0006**	--	**0.011**	< 0.0010	< 0.0010	**0.0098**	--	**0.0016**	--	--	**0.0025**	**0.22**	< 0.00020	**0.024**	**0.00067**	< 0.00010	--
W-305	Downgradient	Alluvial	2/21/2017	**0.32**	**730**	**2,200**	< 0.80	**7.4**	**2,300**	**6,800**	< 0.00010	**0.00066**	--	**0.012**	< 0.0010	**0.00011**	**0.0022**	--	**0.0180**	--	< 0.80	**0.0021**	**0.22**	< 0.00020	**0.020**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	4/11/2017	**0.32**	**730**	**2,300**	< 0.80	**7.7**	**2,400**	**7,300**	< 0.00010	**0.00098**	--	**0.012**	< 0.0010	< 0.0010	**0.00092**	--	**0.0190**	--	< 0.80	**0.0024**	**0.20**	< 0.00020	**0.021**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	4/24/2017	**0.33**	**690**	**2,300**	< 0.80	**7.6**	**2,400**	**6,800**	< 0.00010	**0.00078**	--	**0.012**	< 0.0010	< 0.0010	**0.0031**	--	**0.0170**	--	< 0.80	**0.0020**	**0.21**	< 0.00020	**0.020**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	5/22/2017	**0.33**	**750**	**2,300**	< 0.80	**7.6**	**2,400**	**7,200**	< 0.00010	**0.00070**	--	**0.010**	< 0.0010	< 0.0010	**0.00070**	--	**0.0150**	--	< 0.80	**0.0017**	**0.20**	< 0.00020	**0.017**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	5/24/2017	**0.35**	**740**	**2,400**	< 0.80	**7.5**	**2,500**	**6,800**	< 0.00010	< 0.0020	--	**0.012**	< 0.0010	< 0.00040	< 0.0020	--	**0.0170**	--	< 0.80	< 0.0020	**0.23**	< 0.00020	**0.020**	< 0.0020	< 0.0004	--
W-305	Downgradient	Alluvial	6/29/2017	**0.31**	**670**	**2,600**	< 0.40	**7.5**	**2,500**	**6,900**	< 0.00010	**0.00076**	--	**0.012**	< 0.0010	< 0.0010	**0.0040**	--	**0.0180**	--	< 0.40	**0.0025**	**0.21**	< 0.00020	**0.020**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	7/28/2017	**0.35**	**750**	**2,300**	< 0.80	**7.3**	**2,300**	**7,200**	< 0.0010	**0.00078**	--	**0.010**	< 0.0010	< 0.0010	**0.00062**	--	**0.0170**	--	< 0.80	**0.0021**	**0.21**	< 0.00020	**0.018**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	9/6/2017	**0.33**	**770**	**2,200**	< 0.80	**7.4**	**2,400**	**6,900**	< 0.0010	**0.00073**	--	**0.011**	< 0.0010	**0.0001**	**0.0038**	--	**0.0180**	--	< 0.80	**0.0020**	**0.20**	< 0.00020	**0.021**	< 0.00050	< 0.00010	--
W-305	Downgradient	Alluvial	12/7/2017	**0.34**	**760**	**2,500**	< 0.80	**7.4**	**2,400**	**7,000**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	2/15/2018	--	--	--	< 0.80	--	--	--	< 0.0010	**0.00092**	--	**0.012**	< 0.0010	< 0.00010	< 0.0010	--	**0.017**	--	< 0.80	**0.0020**	**0.21**	< 0.00020	**0.021**	< 0.00050	< 0.00010	**0.643**
W-305	Downgradient	Alluvial	5/19/2018	**0.34**	**700**	**2,700**	< 0.80	**7.3**	**2,800**	**7,000**	< 0.0010	**0.00099**	--	**0.012**	--	< 0.00010	**0.0012**	--	**0.017**	--	< 0.80	**0.0020**	**0.21**	--	**0.020**	< 0.00050	< 0.00010	< 0.7
W-305	Downgradient	Alluvial	5/19/2018	--	--	**2,400**	--	--	**2,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/26/2018	**0.34**	**730**	**2,300**	< 0.80	**7.3**	**2,300**	**7,000**	--	**0.00092**	--	**0.011**	--	< 0.00010	**0.0012**	--	**0.018**	--	< 0.80	**0.0019**	**0.20**	--	**0.021**	**0.00053**	< 0.00010	--
W-305	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-305	Downgradient	Alluvial	12/7/2018	**0.35**	**710**	**2,400**	< 0.80 J,UJ	**7.3 J**	**2,300**	**7,000**	< 0.0050	< 0.0020	--	**0.012**	--	< 0.0010	< 0.0050	--	**0.018**	--	< 0.80 J,UJ	**0.0030**	**0.21**	< 0.00020	**0.021**	< 0.0060	< 0.0010	< 0.7
W-305	Downgradient	Alluvial	2/15/2019	--	--	--	< 0.40	--	--	--	< 0.0010	**0.00087 J**	--	**0.011 J**	< 0.0010	< 0.00010	**0.0017**	--	**0.018**	--	< 0.40	**0.0018 J**	**0.22**	< 0.00020	**0.020 J**	< 0.00050	< 0.00010	**0.8**
W-305	Downgradient	Alluvial	4/17/2019	--	--	--	< 0.80	--	--	--	--	**0.00083**	--	**0.012**	--	< 0.00010	**0.0015**	--	**0.018**	--	< 0.80	**0.0020**	**0.20**	--	**0.022**	**0.00067**	< 0.00010	< 0.7
W-305	Downgradient	Alluvial	8/1/2019	**0.33**	**670**	**2,400**	< 0.8	**7.3 J**	**2,300**	**7,000**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/23/2019	**0.48**	**85**	**1,400**	**1.3**	**7.8 J**	**350**	**7,100**	< 0.0020	**0.0015**	--	**0.013**	< 0.0010	**0.00021**	< 0.0020	--	**0.018**	--	**1.3**	**0.0025**	**0.20**	< 0.00020	**0.022**	< 0.0010	< 0.00020	--
W-305	Downgradient	Alluvial	10/23/2019	**0.34**	**690**	**2,400**	< 0.80	**7.3 J**	**2,300**	**7,000**	< 0.0020	**0.0019**	--	**0.014**	< 0.0010	**0.00022**	< 0.0020	--	**0.018**	--	< 0.80	**0.0026**	**0.20**	< 0.00020	**0.023**	< 0.0010	**0.00024**	--
W-305	Downgradient	Alluvial	4/18/2020	**0.41**	**680**	**2,400**	< 0.8	**7.4 J**	**2,300**	**7,600**	--	< 0.0025	< 0.0025	**0.014**	< 0.0005	< 0.0005	**0.0069**	--	**0.020**	**0.020**	< 0.8	**0.0024**	**0.30 J**	--	**0.021**	< 0.0025	< 0.0001	--
W-305	Downgradient	Alluvial	10/22/2020	**0.34**	**720**	**2,500**	**0.39 J**	**7.3 J**	**2,400**	**6,900**	< 0.002	**0.00068 J**	**0.0012 J**	**0.013**	< 0.001	**0.000056 J**	**0.0025**	--	**0.018**	**0.018**	**0.39 J**	**0.0021**	**0.22**	< 0.0002	**0.022**	**0.0036**	< 0.0002	< 0.8
W-305	Downgradient	Alluvial	4/17/2021	**0.37**	**730**	**2,300 J**	**0.45 J**	**7.4 J**	**2,300 J**	**6,800**	**0.00010 J**	**0.0018 J**	**0.0011**	**0.013**	< 0.001	< 0.0002	**0.0012 J**	--	**0.018**	**0.017**	**0.45 J**	**0.0017**	**0.23**	< 0.0002	**0.023**	**0.0012**	< 0.0002	<0.7
W-305	Downgradient	Alluvial	10/29/2021	**0.37**	**690**	**2,600**	**0.32 J**	**7.4 J**	**2,700**	**6,600**	< 0.002	**0.0014**	**0.0014**	**0.012**	< 0.001	**0.000066 J**	**0.0020**	--	**0.020**	**0.016**	**0.32 J**	**0.0023**	**0.22**	< 0.0002	**0.026**	**0.002**	< 0.0002	**0.5**

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-306	Downgradient	Alluvial	12/2/2015	0.32	550	2,400	0.75	7.02	3,600	8,900	< 0.0025	0.0019	--	0.014	< 0.0010	0.0015	0.00073	--	0.030	--	0.75	0.00066	0.43	< 0.00020	0.032	0.0016	< 0.00010	< 0.7
W-306	Downgradient	Alluvial	3/9/2016	0.46	460	2,200	1.4	7.82	7,100	13,000	< 0.015	< 0.0049	--	0.013	< 0.0010	< 0.00046	< 0.0087	--	0.0099 J	--	1.4	< 0.0044	0.51	< 0.00020	0.020	0.0020 J	< 0.00026	< 0.6
W-306	Downgradient	Alluvial	5/11/2016	0.56	430	1,900	< 2.0	--	8,000	15,000	0.00024	0.0039	--	0.014	< 0.0010	< 0.00020	< 0.0010	--	0.0082	--	< 2.0	< 0.0010	0.56	< 0.00020	0.020	0.0037	< 0.00020	< 0.4
W-306	Downgradient	Alluvial	8/26/2016	1.1	440	1,800	1.4	7.7	11,000	19,000	0.00024	0.0051	--	0.015	< 0.0010	< 0.00010	0.00093	--	0.0043	--	1.4	< 0.00050	0.67	< 0.00020	0.057	0.0047	< 0.00010	0.5
W-306	Downgradient	Alluvial	9/22/2016	1.1	430	4,900	< 0.40	7.9	11,000	20,000	< 0.0010	0.0042	--	0.013	< 0.0010	< 0.00020	< 0.0010	--	0.0038	--	< 0.40	< 0.00020	0.72	< 0.00020	0.032	0.0039	< 0.00020	< 0.7
W-306	Downgradient	Alluvial	2/21/2017	1.1	430	1,800	1.5	7.9	12,000	18,000	< 0.0010	0.0048	--	0.012	< 0.0010	< 0.00010	0.00087	--	0.0021	--	1.5	< 0.00050	0.78	< 0.00020	0.033	0.0042	< 0.00010	< 0.6
W-306	Downgradient	Alluvial	4/12/2017	1.0	410	1,800	1.4	8.2	12,000	20,000	< 0.0010	0.0050	--	0.012	< 0.0010	< 0.00010	< 0.00050	--	0.0021	--	1.4	< 0.00050	0.70	< 0.00020	0.035	0.0039	< 0.00010	< 0.6
W-306	Downgradient	Alluvial	4/25/2017	1.1	410	1,900	1.5	7.9	13,000	20,000	< 0.0010	0.0048	--	0.012	< 0.0010	< 0.00010	0.00050	--	0.0020	--	1.5	< 0.0010	0.71	< 0.00020	0.032	0.0039	< 0.00020	< 0.6
W-306	Downgradient	Alluvial	5/22/2017	1.0	420	1,800	1.1	7.9	12,000	20,000	< 0.0010	0.0042	--	0.010	< 0.0010	< 0.00010	< 0.00050	--	0.0018	--	1.1	< 0.00050	0.65	< 0.00020	0.026	0.0030	< 0.00010	< 0.6
W-306	Downgradient	Alluvial	5/24/2017	1.0	420	1,800	1.0	7.9	12,000	18,000	< 0.0040	0.0046	--	0.013	< 0.0010	< 0.00040	< 0.0020	--	0.0022	--	1.0	< 0.0020	0.74	< 0.00020	0.029	0.0030	< 0.00040	< 0.6
W-306	Downgradient	Alluvial	7/1/2017	0.95	380	2,100	1.3	7.8	13,000	19,000	< 0.0010	0.0046	--	0.011	< 0.0010	0.00010	< 0.00050	--	0.0023	--	1.3	< 0.00050	0.64	< 0.00020	0.028	0.0031	< 0.00010	< 0.7
W-306	Downgradient	Alluvial	7/28/2017	0.99	410	2,100	1.2	7.8	12,000	18,000	< 0.0010	0.0044	--	0.0094	< 0.0010	< 0.00040	< 0.00050	--	0.0024	--	1.2	< 0.0020	0.64	< 0.00020	0.027	0.0027	< 0.00040	1.1
W-306	Downgradient	Alluvial	9/6/2017	0.97	430	1,800	1.4	7.8	11,000	17,000	< 0.0010	0.0047	--	0.010	< 0.0010	< 0.00010	< 0.0010	--	0.0023	--	1.4	< 0.00050	0.62	< 0.00020	0.028	0.0029	< 0.00010	< 0.7
W-306	Downgradient	Alluvial	12/7/2017	1.0	440	1,900	1.4	7.9	12,000	18,000	--	--	--	--	--	--	--	--	--	--	1.4	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	2/15/2018	--	--	--	1.3	--	--	--	< 0.0010	0.0048	--	0.010	< 0.0010	< 0.00010	< 0.0010	--	0.0014	--	1.3	< 0.00050	0.69	< 0.00020	0.028	0.0021	< 0.00010	0.4
W-306	Downgradient	Alluvial	2/15/2018	--	--	--	1.3	--	--	--	< 0.0020	0.0049	--	0.011	< 0.0010	< 0.00020	< 0.0010	--	0.0015	--	1.3	< 0.0010	0.70	< 0.00020	0.030	0.0022	< 0.00020	0.3
W-306	Downgradient	Alluvial	5/19/2018	1.0	390	2,000	1.6	7.8	13,000	18,000	< 0.0020	0.0052	--	0.010	--	< 0.00020	< 0.0020	--	0.0014	--	1.6	< 0.0010	0.68	--	0.031	0.0016	< 0.00020	0.8
W-306	Downgradient	Alluvial	10/26/2018	1.0	420	1,800	1.4	7.9	12,000	18,000	--	0.0052	--	0.010	--	0.00011	< 0.0010	--	0.0012	--	1.4	< 0.00050	0.68	--	0.032	0.0021	< 0.00010	--
W-306	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-306	Downgradient	Alluvial	12/7/2018	1.1	410	1,900	1.4 J,UJ	7.9 J	12,000	19,000	< 0.0050	0.0041	--	0.010	--	< 0.0010	< 0.0050	--	< 0.0020	--	1.4 J,UJ	< 0.0010	0.73	< 0.00020	0.028	< 0.0060	< 0.0010	< 0.7
W-306	Downgradient	Alluvial	2/15/2019	--	--	--	1.2	--	--	--	< 0.0010	0.0053	--	0.011	< 0.0010	< 0.00010	< 0.0010	--	0.00097	--	1.2	< 0.00050	0.80	< 0.00020	0.031	0.0021	< 0.00010	< 0.6
W-306	Downgradient	Alluvial	4/16/2019	--	--	--	1.0	--	--	--	--	0.0052	--	0.011	--	0.00013	< 0.0010	--	0.00094	--	1.0	< 0.00050	0.68	--	0.033	0.0016	< 0.00010	< 0.7
W-306	Downgradient	Alluvial	8/1/2019	1.1	390	1,900	0.99	7.9 J	12,000	19,000	--	--	--	--	--	--	--	--	--	--	0.99	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	10/23/2019	1.0	380	1,900	1.0	7.9 J	13,000	19,000	< 0.0020	0.0060	--	0.013	< 0.0010	0.00021	< 0.0040	--	0.0029	--	1.0	< 0.0010	0.70	< 0.00020	0.039	0.0023	< 0.00020	--
W-306	Downgradient	Alluvial	4/19/2020	1.1	400	1,800	1.5	7.9 J	12,000	19,000	--	0.0048	0.0051	0.011	0.0017	< 0.0005	< 0.005	--	< 0.0025	< 0.0025	1.5	< 0.0025	1.2	--	0.039	< 0.0025	< 0.0005	--
W-306	Downgradient	Alluvial	4/19/2020	1.2	400	2,000	1.1	7.8 J	13,000	19,000	--	0.0050	0.0055	0.012	0.0017	< 0.0005	< 0.005	--	< 0.0025	< 0.0025	1.1	< 0.0025	1.3	--	0.042	< 0.0025	< 0.0005	--
W-306	Downgradient	Alluvial	10/22/2020	0.94	440	2,100	1.1	7.7 J	13,000	18,000	0.00033 J	0.014	0.0071	0.022	< 0.001	0.0002 J	0.0017 J	--	0.0030	0.0018 J	1.1	< 0.002	0.73	< 0.0002	0.073	0.0055	< 0.0004	< 0.8
W-306	Downgradient	Alluvial	4/17/2021	0.99	430	1,900	0.94	7.9 J	12,000	18,000	0.00023 J	0.0056	0.0048	0.013	< 0.001	< 0.0002	< 0.002	--	0.0012	0.00091 J	0.94	< 0.001	0.79	< 0.0002	0.041	0.0044	< 0.0002	<0.7
W-306	Downgradient	Alluvial	10/29/2021	0.95	430	2,100	0.84	7.9 J	12,000	17,000	< 0.002 U	0.0050	0.0050	0.012	< 0.001	0.00021	< 0.002	--	0.0018	0.0014	0.84	0.00067 J	0.77	< 0.0002	0.051	0.0031	< 0.0002 U	0.4

Groundwater Quality Data for BAP Monitoring Wells

			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
				Appendix III Constituents							Appendix IV Constituents																			
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-307	Supplementary	Alluvial	12/8/2018	**2.4**	**790**	**2,700**	< 0.80 J,UJ	**7.2 J**	**2,600**	**7,800**	< 0.0050	< 0.0020	--	**0.012**	--	< 0.0010	< 0.0050	--	**0.076**	--	< 0.80 J,UJ	**0.0020**	**0.24**	< 0.00020	**0.0044**	< 0.0060	< 0.0010	< 0.7
W-307	Supplementary	Alluvial	2/15/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.00088**	--	**0.012**	< 0.0010	**0.00028**	< 0.0010	--	**0.073**	--	< 0.80	**0.00085**	**0.26**	< 0.00020	**0.0045**	**0.00063**	< 0.00010	< 0.6
W-307	Supplementary	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.0011**	--	**0.012**	--	**0.00062**	< 0.0010	--	**0.080**	--	< 0.80	**0.0018**	**0.22**	--	**0.0068**	**0.00064**	< 0.00010	--
W-307	Supplementary	Alluvial	6/25/2019	**2.3**	**790**	**2,500**	< 0.40	**7.3**	**2,500**	**8,300**	--	--	--	--	< 0.0010	--	**0.0069**	--	--	--	< 0.40	--	--	--	--	--	< 0.00010	--
W-307	Supplementary	Alluvial	8/8/2019	**2.6**	**850**	**2,600**	< 0.8	**7.2 J**	**2,600**	**7,800**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-307	Supplementary	Alluvial	10/24/2019	**2.3**	**750**	**2,800**	< 0.80	**7.4 J**	**2,700**	**8,100**	< 0.0020	< 0.0020	--	**0.013**	< 0.0010	**0.00049**	**0.016**	--	**0.082**	--	< 0.80	**0.0011**	**0.23**	< 0.00020	**0.011**	< 0.0010	< 0.00020	--
W-307	Supplementary	Alluvial	4/17/2020	**2.7**	**710**	**2,600**	< 0.8	**7.3 J**	**2,500**	**8,000**	--	< 0.0025	< 0.0025	**0.012**	< 0.0005	< 0.0005	**0.013**	--	**0.084**	**0.085**	< 0.8	**0.0011**	**0.29 J**	--	**0.011**	< 0.0025	< 0.0001	--
W-307	Supplementary	Alluvial	10/23/2020	**2.5**	**790**	**3,100**	**0.49 J**	**7.3 J**	**2,800**	**8,000**	< 0.002	**0.0014**	**0.0020**	**0.013**	< 0.001	**0.00056**	**0.013**	--	**0.070**	**0.074**	**0.49 J**	**0.0011**	**0.26**	< 0.0002	**0.017**	**0.0024**	< 0.0002	< 0.8
W-307	Supplementary	Alluvial	4/18/2021	**2.6**	**800**	**2,700**	**0.38 J**	**7.3 J**	**2,600**	**8,300**	**0.000092 J**	**0.0020**	**0.0014**	**0.013**	< 0.001	**0.00013 J**	**0.0055**	--	**0.076**	**0.073**	**0.38 J**	**0.00078 J**	**0.26**	< 0.0002	**0.019**	**0.0018**	< 0.0002	<0.7
W-307R	Supplementary	Alluvial	10/28/2021	**2.6**	**720**	**2,700**	**0.56 J**	**7.4 J**	**2,700**	**8,400**	< 0.002 U	**0.0017**	**0.0019**	**0.028 J**	< 0.001	**0.00071**	**0.011**	--	**0.072**	**0.055**	**0.56 J**	**0.0010**	**0.28**	< 0.0002	**0.027**	**0.0021**	< 0.0002 U	< 0.6
W-307R	Supplementary	Alluvial	10/28/2021	**2.5**	**700**	**2,700**	**0.55 J**	**7.3 J**	**2,700**	**7,900**	< 0.001 U	**0.0018**	**0.0022**	**0.022 J**	< 0.001	**0.00054**	< 0.0092 U	--	**0.062**	**0.056**	**0.55 J**	**0.00090**	**0.26**	< 0.0002	**0.022**	**0.0012**	**0.000054 J**	< 0.6
W-307R	Supplementary	Alluvial	12/1/2021	**2.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.063**	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/1/2021	**2.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.062**	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/2/2021	**2.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.066**	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/2/2021	**2.6**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.066**	--	--	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	12/8/2018	**0.45**	**730**	**2,900**	< 0.80 J,UJ	**7.1 J**	**3,000**	**8,300**	< 0.0050	**0.0023**	--	**0.0082**	--	< 0.0010	< 0.0050	--	**0.0033**	--	< 0.80 J,UJ	< 0.0010	**0.37**	< 0.00020	**0.032**	< 0.0060	< 0.0010	< 0.7
W-308	Supplementary	Alluvial	2/15/2019	--	--	--	< 0.80	--	--	--	< 0.0010	**0.0019**	--	**0.0066**	< 0.0010	< 0.00010	< 0.0010	--	**0.00079**	--	< 0.80	< 0.00050	**0.39**	< 0.00020	**0.0020**	**0.074**	< 0.00010	< 0.7
W-308	Supplementary	Alluvial	4/16/2019	--	--	--	< 0.80	--	--	--	--	**0.00083**	--	**0.0067**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	**0.35**	--	**0.010**	**0.053 J**	< 0.00010	--
W-308	Supplementary	Alluvial	6/25/2019	**0.45**	**780**	**2,900**	< 0.40	**7.3**	**2,800**	**8,800**	--	--	--	--	< 0.0010	--	**0.0061**	--	--	--	< 0.40	--	--	--	--	--	< 0.00010	--
W-308	Supplementary	Alluvial	8/8/2019	**0.48**	**850**	**3,000**	< 0.8	**7.2 J**	**2,700**	**8,700**	--	--	--	--	--	--	--	--	--	--	< 0.8	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	10/24/2019	**0.45**	**780**	**3,100 J**	< 0.80 UJ	**7.3 J**	**2,800 J**	**8,900 J**	< 0.0020	< 0.0020	--	**0.0078**	< 0.0010	< 0.00020	**0.010**	--	< 0.0020	--	< 0.80 UJ	< 0.0010	**0.37**	< 0.00020	**0.0025**	**0.022**	< 0.00020	--
W-308	Supplementary	Alluvial	4/17/2020	**0.50**	**760**	**2,900**	< 0.8	**7.3 J**	**2,500**	**8,600**	--	< 0.0025	**0.0025**	**0.0072**	< 0.0005	< 0.0005	**0.077**	--	< 0.0025	< 0.0025	< 0.8	< 0.0025	**0.46 J**	--	**0.0052**	**0.020**	< 0.0005	--
W-308	Supplementary	Alluvial	10/24/2020	**0.41**	**820**	**3,400**	**0.48 J**	**7.0 J**	**2,800**	**8,700**	< 0.002	**0.0024**	**0.0015 J**	**0.0084**	< 0.001	**0.000074 J**	**0.028**	--	**0.0027**	**0.080**	**0.48 J**	< 0.001	**0.42**	< 0.0002	**0.0031**	**0.012**	**0.000028 J**	< 0.8
W-308	Supplementary	Alluvial	4/18/2021	**0.42**	**840**	**3,400**	**0.46 J**	**7.2 J**	**2,700**	**8,800**	**0.00010 J**	**0.0018 J**	**0.0013**	**0.0081**	< 0.001	< 0.0002	**0.011**	--	**0.00077 J**	**0.00080 J**	**0.46 J**	< 0.001	**0.42**	< 0.0002	**0.0025**	**0.008**	< 0.0002	<0.7
W-308	Supplementary	Alluvial	10/28/2021	**0.41**	**820**	**3,200**	**0.54 J**	**7.3 J**	**2,500**	**7,900**	< 0.001 U	< 0.0013 U	**0.0019**	**0.0077**	< 0.001	**0.00004 J**	**0.0086**	--	**0.0021**	**0.0021**	**0.54 J**	< 0.0005	**0.41**	< 0.0002	**0.0025**	**0.0026**	**0.00013**	**1.3**
W-309	Supplementary	Alluvial	12/8/2018	**0.42**	**280**	**1,300**	**1.0 J,UJ**	**8.1 J**	**2,900**	**6,500**	< 0.0050	**0.0044**	--	**0.011**	--	< 0.0010	< 0.0050	--	< 0.0020	--	**1.0 J,UJ**	< 0.0010	< 0.20	< 0.00020	**0.024**	< 0.0060	< 0.0010	< 0.7
W-309	Supplementary	Alluvial	2/15/2019	--	--	--	**1.1**	--	--	--	< 0.0010	**0.0047**	--	**0.0083**	< 0.0010	< 0.00010	< 0.0010	--	< 0.00050	--	**1.1**	< 0.00050	**0.35**	< 0.00020	**0.028**	**0.19**	< 0.00010	--
W-309	Supplementary	Alluvial	4/16/2019	--	--	--	**1.0**	--	--	--	--	**0.0051**	--	**0.0062**	--	< 0.00010	< 0.0010	--	< 0.00050	--	**1.0**	< 0.00050	**0.30**	--	**0.061**	**0.22 J**	< 0.00010	--
W-309	Supplementary	Alluvial	6/25/2019	**0.46**	**450**	**1,600**	**1.2**	**7.5**	**3,000**	**7,100**	--	--	--	--	< 0.0010	--	**0.0033**	--	--	--	**1.2**	--	--	--	--	--	< 0.00010	--
W-309	Supplementary	Alluvial	8/8/2019	**0.50**	**470**	**1,600**	**1.1**	**7.5 J**	**3,200**	**7,300**	--	--	--	--	--	--	--	--	--	--	**1.1**	--	--	--	--	--	--	--
W-309	Supplementary	Alluvial	10/24/2019	**0.45**	**430**	**1,600 J**	**1.1 J**	**7.5 J**	**3,300 J**	**7,100 J**	< 0.0020	**0.0066**	--	**0.0079**	< 0.0010	< 0.00020	**0.0020**	--	< 0.0010	--	**1.1 J**	< 0.0010	**0.31**	< 0.00020	**0.011**	**0.18**	< 0.00020	--
W-309	Supplementary	Alluvial	5/4/2020	**0.46**	**440**	**1,500**	**1.2**	**7.5 J**	**3,200**	**7,200**	< 0.001	**0.0047**	**0.0038**	**0.0070**	< 0.001	< 0.0001	**0.0052**	--	< 0.0005	< 0.0005	**1.2**	**0.023**	**0.50**	--	**0.010**	**0.20**	< 0.0001	< 0.8
W-309	Supplementary	Alluvial	10/24/2020	**0.43**	**450**	**1,700**	**1.1**	**7.2 J**	**3,400**	**7,100**	< 0.002	**0.0089**	**0.0093**	**0.0071**	< 0.001	**0.000066 J**	**0.11**	--	**0.0006 J**	**0.00038 J**	**1.1**	< 0.001	**0.33**	< 0.0002	**0.017**	**0.21**	**0.000052 J**	< 0.8
W-309	Supplementary	Alluvial	4/18/2021	**0.45**	**470**	**1,500**	**1.0**	**7.4 J**	**3,200**	**7,300**	**0.000092 J**	**0.0015 J**	**0.00083 J**	**0.0076**	< 0.001	< 0.0002	**0.042**	--	< 0.001	< 0.001 U	**1.0**	< 0.001	**0.36**	< 0.0002	**0.010**	**0.20**	< 0.0002	<0.7
W-309	Supplementary	Alluvial	10/27/2021	**0.46**	**460**	**1,500**	**1.3**	**7.5 J**	**3,100**	**6,900**	< 0.001 U	< 0.0013 U	**0.0020**	**0.0067**	< 0.001	**0.000059 J**	**0.015**	--	< 0.0005 U	**0.0002 J**	**1.3**	< 0.0005	**0.33**	< 0.0002	**0.0083**	**0.20**	**0.000094 J**	**0.4**

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-314	Downgradient	Alluvial	12/2/2015	**0.98**	**780**	**2,900**	**1.2**	**7.62**	**2,200**	**7,400**	< 0.0025	< 0.00050	--	**0.016**	< 0.0010	**0.00022**	**0.00078**	--	**0.016**	--	**1.2**	**0.00067**	**0.35**	< 0.00020	**0.0066**	**0.00040**	< 0.00010	< 0.7
W-314	Downgradient	Alluvial	3/10/2016	**0.96**	**760**	**3,000**	< 0.80	**7.35**	**2,300**	**7,200**	< 0.015	< 0.0049	--	**0.013**	< 0.0010	< 0.00046	< 0.0087	--	**0.018**	--	< 0.80	< 0.0044	**0.32**	< 0.00020	**0.0072 J**	< 0.0015	< 0.00026	< 0.5
W-314	Downgradient	Alluvial	5/11/2016	**0.97**	**780**	**2,600**	< 2.0	--	**2,100**	**7,400**	< 0.00020	< 0.0010	--	**0.012**	< 0.0010	< 0.00020	< 0.0010	--	**0.015**	--	< 2.0	< 0.0010	**0.33**	< 0.00020	**0.0073**	< 0.0010	< 0.00020	< 0.5
W-314	Downgradient	Alluvial	8/26/2016	**1.1**	**820**	**2,600**	**0.93**	**7.3**	**2,200**	**8,000**	**0.00014**	**0.00056**	--	**0.013**	< 0.0010	**0.00017**	**0.00078**	--	**0.015**	--	**0.93**	< 0.00050	**0.32**	< 0.00020	**0.013**	< 0.00050	< 0.00010	< 0.6
W-314	Downgradient	Alluvial	9/22/2016	**1.1**	**800**	**2,700**	**1.1**	**7.6**	**2,300**	**8,100**	< 0.00050	**0.00060**	--	**0.012**	< 0.0010	**0.00015**	**0.00073**	--	**0.013**	--	**1.1**	**0.00041**	**0.34**	< 0.00020	**0.0082**	**0.00064**	< 0.00010	< 0.7
W-314	Downgradient	Alluvial	2/21/2017	**1.1**	**810**	**2,600**	**0.97**	**7.5**	**2,100**	**7,200**	< 0.0010	**0.00054**	--	**0.011**	< 0.0010	**0.00016**	**0.0010**	--	**0.013**	--	**0.97**	< 0.00050	**0.35**	< 0.00020	**0.0077**	< 0.00050	< 0.00010	< 0.6
W-314	Downgradient	Alluvial	4/11/2017	**1.1**	**780**	**2,800**	**0.91**	**7.7**	**2,200**	**7,700**	< 0.0010	< 0.00050	--	**0.012**	< 0.0010	**0.00019**	**0.0012**	--	**0.014**	--	**0.91**	< 0.00050	**0.31**	< 0.00020	**0.0086**	< 0.00050	< 0.00010	< 0.6
W-314	Downgradient	Alluvial	4/25/2017	**1.1**	**810**	**2,800**	**0.80**	**7.5**	**2,300**	**7,500**	< 0.0010	< 0.00050	--	**0.011**	< 0.0010	**0.00017**	**0.0017**	--	**0.013**	--	**0.80**	**0.0023**	**0.33**	< 0.00020	**0.0079**	< 0.00050	< 0.00010	**0.5**
W-314	Downgradient	Alluvial	5/22/2017	**1.1**	**840**	**2,800**	**0.90**	**7.5**	**2,300**	**7,600**	< 0.0010	< 0.00050	--	**0.0097**	< 0.0010	**0.00016**	**0.0020**	--	**0.011**	--	**0.90**	< 0.00050	**0.32**	< 0.00020	**0.0070**	< 0.00050	< 0.00010	< 0.6
W-314	Downgradient	Alluvial	5/24/2017	**1.1**	**840**	**2,800**	**0.90**	**7.4**	**2,300**	**7,400**	< 0.0040	< 0.0020	--	**0.013**	< 0.0010	< 0.00040	< 0.0020	--	**0.014**	--	**0.90**	< 0.0020	**0.34**	< 0.00020	**0.0085**	< 0.0020	< 0.00040	< 0.6
W-314	Downgradient	Alluvial	6/30/2017	**1.1**	**770**	**2,900**	**1.1**	**7.4**	**2,500**	**7,900**	< 0.0010	**0.00069**	--	**0.011**	< 0.0010	**0.00020**	**0.00098**	--	**0.012**	--	**1.1**	< 0.00050	**0.30**	< 0.00020	**0.0080**	< 0.00050	< 0.00010	< 0.7
W-314	Downgradient	Alluvial	7/28/2017	**1.1**	**800**	**2,800**	**0.90**	**7.3**	**2,200**	**7,600**	< 0.0010	**0.00053**	--	**0.0093**	< 0.0010	**0.00018**	**0.00087**	--	**0.012**	--	**0.90**	< 0.00050	**0.30**	< 0.00020	**0.0071**	< 0.00050	< 0.00010	< 0.6
W-314	Downgradient	Alluvial	9/7/2017	**1.1**	**860**	**2,800**	**0.90**	**7.3**	**2,200**	**7,700**	< 0.0010	**0.00091**	--	**0.011**	< 0.0010	**0.00018**	**0.0012**	--	**0.013**	--	**0.90**	< 0.00050	**0.31**	< 0.00020	**0.0080**	< 0.00050	< 0.00010	< 0.7
W-314	Downgradient	Alluvial	12/7/2017	**1.1**	**830**	**2,900**	**0.85**	**7.4**	**2,200**	**7,500**	--	--	--	--	--	--	--	--	--	--	**0.85**	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	2/15/2018	--	--	--	**1.1**	--	--	--	< 0.0010	**0.00060**	--	**0.012**	< 0.0010	**0.00019**	< 0.0010	--	**0.013**	--	**1.1**	< 0.00050	**0.32**	< 0.00020	**0.0085**	< 0.00050	< 0.00010	**0.2**
W-314	Downgradient	Alluvial	5/20/2018	**1.1**	**790**	**2,900**	**1.3**	**7.3**	**2,400**	**7,500**	< 0.0020	< 0.0010	--	**0.011**	--	< 0.00020	< 0.0020	--	**0.013**	--	**1.3**	< 0.0010	**0.32**	--	**0.0093**	< 0.0010	< 0.00020	< 0.7
W-314	Downgradient	Alluvial	10/24/2018	**1.1**	**800**	**2,600**	**0.83**	**7.5**	**2,200**	**7,400**	--	**0.00073**	--	**0.011**	--	**0.00019**	**0.0013**	--	**0.015**	--	**0.83**	< 0.00050	**0.30**	--	**0.0087**	< 0.00050	< 0.00010	--
W-314	Downgradient	Alluvial	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.7
W-314	Downgradient	Alluvial	12/8/2018	**1.1**	**800**	**2,700**	**0.89 J,UJ**	**7.3 J**	**2,100**	**7,700**	< 0.0050	< 0.0020	--	**0.013**	--	< 0.0010	**0.014**	--	**0.014**	--	**0.89 J,UJ**	< 0.0010	**0.32**	< 0.00020	**0.0087**	< 0.0060	< 0.0010	**0.7**
W-314	Downgradient	Alluvial	2/15/2019	--	--	--	**0.82**	--	--	--	< 0.0010	**0.0011**	--	**0.011**	< 0.0010	**0.00017**	**0.046**	--	**0.016**	--	**0.82**	< 0.00050	**0.34**	< 0.00020	**0.012**	< 0.00050	< 0.00010	--
W-314	Downgradient	Alluvial	4/16/2019	--	--	--	**0.87**	--	--	--	--	< 0.00050	--	**0.012**	--	**0.00021**	**0.094**	--	**0.016**	--	**0.87**	< 0.00050	**0.29**	--	**0.026**	< 0.00050	< 0.00010	< 0.7
W-314	Downgradient	Alluvial	8/1/2019	**1.2**	**740**	**2,700**	**0.84**	**7.4 J**	**2,200**	**7,600**	--	--	--	--	--	--	--	--	--	--	**0.84**	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	10/24/2019	**1.2**	**750**	**2,700 J**	< 0.80 UJ	**7.4 J**	**2,200 J**	**7,400 J**	< 0.0020	**0.0015**	--	**0.013**	< 0.0010	**0.00036**	**0.0081**	--	**0.019**	--	< 0.80 UJ	< 0.0010	**0.30**	< 0.00020	**0.011**	< 0.0010	< 0.00020	--
W-314	Downgradient	Alluvial	4/19/2020	**1.4**	**790**	**2,900**	**0.84**	**7.5 J**	**2,300**	**7,600**	--	< 0.0025	< 0.0025	**0.011**	< 0.0005	< 0.0005	**0.010**	--	**0.022**	**0.023**	**0.84**	< 0.0025	**0.44 J**	--	**0.010**	< 0.0025	< 0.0005	--
W-314	Downgradient	Alluvial	10/23/2020	**1.2**	**790**	**2,800**	**0.90**	**7.2 J**	**2,400**	**7,200**	< 0.002	**0.0019**	**0.0016 J**	**0.011**	< 0.001	**0.00031**	**0.0091**	--	**0.024**	**0.025**	**0.90**	**0.00058 J**	**0.31**	< 0.0002	**0.011**	**0.002**	< 0.0002	< 0.8
W-314	Downgradient	Alluvial	4/16/2021	**1.3**	**770**	**2,600**	**1.1**	**7.4 J**	**2,300**	**7,800**	< 0.002	**0.0020**	**0.0011**	**0.013**	< 0.001	< 0.0002	**0.032**	--	**0.029**	**0.027**	**1.1**	< 0.001	**0.32**	< 0.0002	**0.015**	**0.0018**	< 0.0002	<0.7
W-314	Downgradient	Alluvial	10/29/2021	**1.3**	**730**	**2,400**	**1.1**	**7.4 J**	**2,200**	**6,800**	< 0.001 U	< 0.0013 U	< 0.0017 U	**0.011**	< 0.001	**0.00043**	**0.071**	--	**0.030**	**0.028**	**1.1**	**0.00088**	**0.30**	< 0.0002	**0.016**	**0.00076**	**0.000021 J**	< 0.6

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
W-317	Supplementary	Alluvial	3/30/2019	**0.20**	**320**	**1,400**	< 0.40	**7.5 J**	**670**	**3,300**	< 0.0010	**0.0036**	--	**0.039**	< 0.0010	< 0.00010	**0.0035**	--	**0.00085**	--	< 0.40	< 0.00050	< 0.20	< 0.00020	**0.064**	< 0.00050	< 0.00010	--
W-317	Supplementary	Alluvial	4/17/2019	--	--	--	< 0.80	--	--	--	--	**0.0039**	--	**0.033**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	< 0.20	--	**0.0028**	< 0.00050	< 0.00010	--
W-317	Supplementary	Alluvial	4/17/2019	--	--	--	< 0.80	--	--	--	--	**0.0035**	--	**0.032**	--	< 0.00010	< 0.0010	--	< 0.00050	--	< 0.80	< 0.00050	< 0.20	--	**0.0028**	< 0.00050	< 0.00010	--
W-317	Supplementary	Alluvial	8/8/2019	**0.48**	**450**	**1,600**	**1.0**	**7.5 J**	**3,200**	**7,200**	--	--	--	--	--	--	--	--	--	--	**1.0**	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	8/9/2019	**0.22**	**360**	**1,500**	< 0.4	**7.4 J**	**700**	**3,400**	--	--	--	--	--	--	--	--	--	--	< 0.4	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	10/24/2019	**0.21**	**340**	**1,400 J**	< 0.40 UJ	**7.5 J**	**680 J**	**3,400 J**	< 0.0010	**0.0043**	--	**0.036**	< 0.0010	< 0.00010	**0.0012**	--	< 0.00050	--	< 0.40 UJ	< 0.00050	< 0.20	< 0.00020	**0.0046**	< 0.00050	< 0.00010	--
W-317	Supplementary	Alluvial	4/16/2020	**0.21**	**350**	**1,500**	< 0.8	**7.5 J**	**730**	**3,700**	--	**0.0038**	--	**0.031**	< 0.0005	< 0.0005	< 0.005	--	< 0.0025	--	< 0.8	< 0.0005	**0.042 J**	--	**0.0037**	< 0.0025	< 0.0001	--
W-317	Supplementary	Alluvial	10/21/2020	**0.20**	**350**	**1,500**	**0.36 J**	**7.6 J**	**680**	**3,500**	< 0.004	**0.0046**	--	**0.036**	**0.0001 J**	< 0.0004	**0.0079**	--	**0.00073 J**	--	**0.36 J**	< 0.002	**0.064**	< 0.0002	**0.0041**	**0.0028**	< 0.0004	< 0.8
W-317	Supplementary	Alluvial	4/14/2021	**0.19**	**340**	**1,400**	**0.35 J**	**7.6 J**	**700**	**2,900**	< 0.002	**0.0079**	--	**0.034**	< 0.001	< 0.0002	**0.0055**	--	< 0.001	--	**0.35 J**	< 0.001	**0.060**	< 0.0002	**0.0030**	**0.00096 J**	< 0.0002	<0.7
W-317	Supplementary	Alluvial	10/21/2021	< 0.2 U	**350**	**1,500**	**0.34 J**	**7.5 J**	**750**	**3,600 J**	< 0.001 U	**0.0052**	--	**0.031**	< 0.001	**0.000039 J**	**0.0046**	--	< 0.0005 U	--	**0.34 J**	< 0.0005	**0.058**	< 0.0002	**0.0025**	**0.00063**	**0.0004**	**0.4**
BAP	Supplementary	Surface Pond	1/5/2012	**5.0**	--	**2,800**	< 4.0	**8.05**	**3,300**	**8,600**	--	--	--	--	--	< 0.0010	--	--	--	--	< 4.0	< 0.015	--	--	--	--	< 0.0010	--
BAP	Supplementary	Surface Pond	11/7/2012	**6.7**	**690**	**2,600**	**5.9**	--	**3,400**	**8,800**	--	--	--	--	--	< 0.0010	--	--	--	--	**5.9**	< 0.015	--	--	--	--	< 0.0020	--
BAP	Supplementary	Surface Pond	11/7/2012	**5.7**	**770**	**3,200**	**4.8**	--	**3,200**	**9,700**	--	--	--	--	--	--	--	--	--	--	**4.8**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	3/13/2013	--	--	**2,010**	--	--	**2,700**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	3/13/2013	--	**563**	--	**3.5**	**7.51**	--	**7,130**	--	--	--	--	--	--	--	--	--	--	**3.5**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	9/18/2013	--	--	**2,200**	--	--	**2,800**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	9/18/2013	--	**562**	--	**3.9**	**8.46**	--	**7,400**	--	--	--	--	--	--	--	--	--	--	**3.9**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	5/22/2014	--	--	**2,400**	--	--	**3,300**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	5/22/2014	--	**645**	--	**4.1**	**8.01**	--	**10,600**	--	--	--	--	--	--	--	--	--	--	**4.1**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	10/13/2014	--	**564**	**2,170**	**4.2**	**8.11**	**3,060**	**8,350**	--	--	--	--	--	--	--	--	--	--	**4.2**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	5/4/2015	--	**523**	**1,710**	**3.8**	**8.06**	**2,590**	**6,880**	--	--	--	--	--	--	--	--	--	--	**3.8**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	10/12/2016	--	--	**1,900**	**5.8**	**8.8**	**3,300**	**8,000**	--	--	--	--	--	--	--	--	--	--	**5.8**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	6/7/2017	--	--	**1,800**	**4.6**	**8.8**	**3,300**	**7,200**	--	--	--	--	--	--	--	--	--	--	**4.6**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	10/6/2017	--	--	**1,900**	**4.1**	**8.6**	**3,100**	**7,500**	--	--	--	--	--	--	--	--	--	--	**4.1**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	3/30/2019	**4.8**	**550**	**2,100**	**3.7**	**8.3 J**	**3,100**	**7,700**	**0.0027**	**0.017**	--	**0.20 J**	< 0.0010	**0.00011**	**0.0035**	--	**0.00099**	--	**3.7**	< 0.00050	< 0.20	< 0.00020	**0.027**	**0.014**	< 0.00010	--
BAP	Supplementary	Surface Pond	4/29/2019	--	--	**2,100**	**3.7**	**8.2 J**	**3,100**	**8,200**	--	--	--	--	--	--	--	--	--	--	**3.7**	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	4/16/2021	**3.4**	**560**	**1,800**	**3.3**	**8.9 J**	**2,900**	**6,800**	**0.0030**	**0.016**	--	**0.27**	< 0.001	< 0.0002	**0.0020**	--	**0.00061 J**	**0.00086 J**	**3.3**	< 0.001	**0.17**	< 0.0002	**0.034**	**0.017**	< 0.0002	<0.7
BAP	Supplementary	Surface Pond	10/31/2021	**3.2**	**540**	**1,800**	**3.9**	**8.4 J**	**2,900**	**6,400**	**0.0023**	**0.026**	**0.022**	**0.29**	< 0.001	**0.000069 J**	**0.0037**	**0.0037**	**0.0014**	**0.00091**	**3.9**	**0.0010**	**0.17**	< 0.0002	**0.035**	**0.0072**	**0.000073 J**	--

Groundwater Quality Data for BAP Monitoring Wells

				Appendix III Constituents							Appendix IV Constituents																	
			Constituent:	Boron	Calcium	Chloride	Fluoride	Ph (Laboratory Measurement)	Sulfate	Total Dissolved Solids	Antimony	Arsenic	Arsenic	Barium	Beryllium	Cadmium	Chromium	Chromium	Cobalt	Cobalt	Fluoride	Lead	Lithium	Mercury	Molybdenum	Selenium	Thallium	Total Radium
			Filtered:	N	N	N	N	N	N	N	N	N	Y	N	N	N	N	Y	N	Y	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	su	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L
			BAP BTV	*1.3*	*740*	*5,700*	*0.8*	*7.4*	*5,100*	*15,000*	*0.004*	*0.004*	*0.004*	*0.05*	*0.001*	*0.0004*	*0.004*	*0.004*	*0.002*	*0.002*	*0.8*	*0.002*	*0.31*	*0.0002*	*0.0061*	*0.002*	*0.0014*	*1.6*
			BAP GWPS	--	--	--	--	--	--	--	*0.006*	*0.01*	*0.01*	*2*	*0.004*	*0.005*	*0.1*	*0.1*	*0.006*	*0.006*	*4*	*0.015*	*0.31*	*0.002*	*0.1*	*0.05*	*0.002*	*5*
BAP Toe Drain	Supplementary	Seepage	4/17/2021	**4.3**	**700**	**2,700**	**3.1**	**7.6 J**	**3,200**	**8,700**	< 0.002	**0.0027**	**--**	**0.012**	< 0.001	< 0.0002	**0.0017 J**	**--**	**0.0095**	**0.0096**	**3.1**	**0.019 J**	**0.23**	< 0.0002	**0.025**	**0.0015**	< 0.0002	<0.7
BAP Toe Drain	Supplementary	Seepage	4/17/2021	**4.3**	**710**	**2,600**	**3.1**	**7.5 J**	**3,100**	**8,200**	< 0.002	**0.0020**	**--**	**0.011**	< 0.001	< 0.0002	**0.00098 J**	**--**	**0.0093**	**0.0090**	**3.1**	**0.0078 J**	**0.25**	< 0.0002	**0.025**	**0.0011**	< 0.0002	<0.7
BAP Toe Drain	Supplementary	Seepage	10/30/2021	**4.7**	**720**	**2,600**	**3.3**	**7.5 J**	**3,000**	**8,100**	< 0.002 U	< 0.0016 U	**0.0021**	**0.011**	< 0.001	**0.00064**	**0.00099 J**	--	**0.010**	**0.0096**	**3.3**	**0.0008 J**	**0.23**	< 0.0002	**0.031**	**0.0015**	< 0.0002	--
BSX-01	Extraction Well	Moqui	6/14/2021	**3.3**	**680**	**2,100**	**1.7**	--	**3,000**	**7,300**	--	**0.0019**	--	--	--	--	--	--	**0.014**	--	**1.7**	--	**0.23**	--	**0.065**	--	--	--
BSX-01	Extraction Well	Moqui	6/22/2021	**3.4**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.012**	--	--	--	--	--	--	--	--	--
BSX-01	Extraction Well	Moqui	8/2/2021	**4.0**	**630**	**2,100**	**2.5**	**7.6 J**	**3,000**	**7,200**	< 0.001 U	**0.0029**	**0.0032**	**0.018**	< 0.001	**0.00045**	**0.00098 J**	--	**0.013**	**0.013**	**2.5**	< 0.0005	**0.22**	< 0.0002	**0.050**	**0.00082**	< 0.0001	< 0.6
BSX-02	Extraction Well	Moqui	8/2/2021	**1.8**	**660**	**2,200**	**0.85**	**7.4 J**	**2,600**	**6,400**	< 0.001 U	**0.0017**	**0.0018**	**0.014**	< 0.001	**0.0011**	**0.00072 J**	--	**0.024**	**0.026**	**0.85**	**0.00081**	**0.23**	< 0.0002	**0.053**	**0.00074**	< 0.0001	< 0.6
BSX-03	Extraction Well	Moqui	6/26/2021	**3.2**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.047**	--	--	--	--	--	--	--	--	--
BSX-03	Extraction Well	Moqui	6/23/2021	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.022**	--	--	--	--	--	--	--	--	--
BSX-03	Extraction Well	Moqui	8/2/2021	**3.2**	**640**	**2,100**	**2.9**	**7.8 J**	**2,900**	**7,100**	< 0.001 U	**0.0025**	**0.0026**	**0.017**	< 0.001	**0.0010**	**0.0011**	--	**0.048**	**0.048**	**2.9**	< 0.0005	**0.21**	< 0.0002	**0.062**	**0.0010**	< 0.0001	< 0.6
BSX-04	Extraction Well	Moqui	6/27/2021	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.025**	--	--	--	--	--	--	--	--	--
BSX-04	Extraction Well	Moqui	6/27/2021	**1.7**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.027**	--	--	--	--	--	--	--	--	--
BSX-04	Extraction Well	Moqui	8/3/2021	**1.6**	**700**	**2,100**	**0.99**	**7.2 J**	**2,700**	**6,600**	< 0.001 U	**0.0029**	**0.0033**	**0.014**	< 0.001	**0.00041**	**0.0012**	--	**0.029**	**0.030**	**0.99**	**0.00028 J**	**0.23**	< 0.0002	**0.041**	**0.0014**	< 0.0001	**0.4 J**
BSX-05	Extraction Well	Alluvial	8/3/2021	**3.1**	**680**	**2,100**	**2.4**	**7.5 J**	**3,000**	**7,100**	< 0.001 U	**0.0049**	**0.0056**	**0.023**	< 0.001	**0.000087 J**	**0.0013**	--	**0.019**	**0.019**	**2.4**	**0.00045 J**	**0.20**	< 0.0002	**0.037**	**0.00096**	< 0.0001	< 0.6
Petroglyph	Supplementary	Seepage	4/16/2021	**3.6**	**720**	**2,300**	**3.6**	**7.4 J**	**3,200**	**7,900**	**0.00013 J**	**0.0041**	**--**	**0.0090**	< 0.001	< 0.0002	**0.0022**	**--**	**0.019**	**0.018**	**3.6**	< 0.001	**0.20**	< 0.0002	**0.034**	**0.0014**	< 0.0002	<0.4
Petroglyph	Supplementary	Seepage	10/30/2021	**3.6**	**670**	**2,100**	**3.6**	**7.5 J**	**2,900**	**7,100**	**0.00052 J**	**0.0026**	**0.0035**	**0.0058**	< 0.001	**0.00018 J**	**0.0033**	--	**0.019**	**0.017**	**3.6**	< 0.001	**0.19**	< 0.0002	**0.028**	**0.0016**	**0.000056 J**	--
Tanner Wash Seep	Supplementary	Seepage	5/8/2020	**4.0**	**680**	**2,200**	**3.8**	**7.4 J**	**3,100**	**8,500**	--	**0.0015**	--	**0.058**	< 0.001	**0.00033**	**0.0021**	**--**	**0.020**	--	**3.8**	**0.0070**	**0.33**	--	**0.036**	**0.00054**	--	--
Tanner Wash Seep	Supplementary	Seepage	4/16/2021	**4.1**	**730**	**2,300**	**4.0**	**7.2 J**	**3,300**	**7,900**	**0.00014 J**	**0.0021**	**--**	**0.034**	< 0.001	< 0.0002	**0.0015 J**	**--**	**0.012**	**0.011**	**4.0**	**0.026**	**0.23**	< 0.0002	**0.090**	**0.0018**	< 0.0002	<0.8
Tanner Wash Seep	Supplementary	Seepage	10/30/2021	**4.0**	**670**	**2,300**	**3.6**	**7.4 J**	**3,100**	**7,700**	< 0.002 U	**0.0025**	**0.0019**	**0.0073**	< 0.001	**0.00036**	**0.015**	--	**0.016**	**0.014**	**3.6**	**0.0054**	**0.20**	< 0.0002	**0.067**	**0.0012**	**0.00003 J**	--
TWX-03	Supplementary	Seepage	6/1/2021	**3.7**	**710**	**2,100**	**3.3**	**7.6 J**	**3,000**	**7,200**	< 0.00024 U	**0.0014**	**--**	**0.0095**	< 0.001	**0.00035**	**0.0057**	**--**	**0.014**	**0.014**	**3.3**	**0.0052**	**0.21**	< 0.0002	**0.036**	**0.002**	< 0.000083 U	< 0.8
TWX-03	Supplementary	Seepage	10/31/2021	**3.5**	**670**	**2,200**	**2.8**	**7.5 J**	**3,000**	**7,000**	< 0.002	**0.0017**	**0.0024**	**0.0090**	< 0.001	**0.00052**	**0.011**	--	**0.017**	**0.015**	**2.8**	**0.0050**	**0.20**	< 0.0002	**0.049**	**0.0027**	**0.000092 J**	--
TWX-04	Supplementary	Seepage	6/1/2021	**3.8**	**690**	**2,300**	**3.0**	**7.7 J**	**3,300**	**7,300**	< 0.00013 U	**0.0014**	**--**	**0.0083**	< 0.001	**0.00038**	**0.00091 J**	**--**	**0.013**	**0.014**	**3.0**	**0.0047**	**0.20**	< 0.0002	**0.036**	**0.0031**	< 0.000081 U	< 0.8
TWX-04	Supplementary	Seepage	10/31/2021	**3.8**	**670**	**2,400**	**3.1**	**7.6 J**	**3,300**	**6,600**	**0.00038 J**	**0.0023**	**0.0022**	**0.0095**	< 0.001	**0.00031**	**0.51**	--	**0.017**	**0.0095**	**3.1**	**0.0020**	**0.21**	< 0.0002	**0.11**	**0.0044**	**0.00044**	--
TWX-05	Supplementary	Seepage	6/1/2021	**3.5**	**710**	**2,100**	**2.7**	**7.7 J**	**2,900**	**7,600**	< 0.00023 U	**0.0016**	**--**	**0.0088**	< 0.001	**0.00032**	**0.0008 J**	**--**	**0.013**	**0.013**	**2.7**	**0.0069**	**0.22**	< 0.0002	**0.040**	**0.0057**	< 0.000068 U	< 0.8
TWX-05	Supplementary	Seepage	10/31/2021	**3.8**	**650**	**2,400**	**3.1**	**7.5 J**	**3,300**	**7,200**	< 0.002 U	**0.0037**	**0.0023**	**0.012**	< 0.001	**0.00044**	**0.026**	--	**0.016**	**0.014**	**3.1**	**0.0040**	**0.20**	< 0.0002	**0.042**	**0.0023**	**0.0001 J**	--
TWX-06	Supplementary	Seepage	6/1/2021	**3.4**	**670**	**2,100**	**2.7**	**7.6 J**	**3,000**	**7,200**	< 0.00012 U	**0.0034**	**--**	**0.0087**	< 0.001	**0.00064**	**0.012**	**--**	**0.019**	**0.018**	**2.7**	**0.014**	**0.20**	< 0.0002	**0.062**	**0.00061**	< 0.000041 U	< 0.8
TWX-06	Supplementary	Seepage	10/31/2021	**3.3**	**650**	**2,200**	**3.0**	**7.5 J**	**3,100**	**7,100**	**0.00048 J**	**0.0042**	**0.0033**	**0.0087**	< 0.001	**0.00065**	**0.037**	--	**0.018**	**0.016**	**3.0**	**0.0009 J**	**0.20**	< 0.0002	**0.063**	**0.0015 J**	< 0.0004	--
TWX-07	Supplementary	Seepage	6/1/2021	**1.1**	**720**	**2,800**	**1.9**	**7.8 J**	**3,000**	**8,000**	**0.00035 J**	**0.0034**	**--**	**0.011**	< 0.001	**0.0091**	**0.68**	**--**	**0.0093 J**	**0.015 J**	**1.9**	**0.0065**	**0.45**	< 0.0002	**0.23**	**0.0012**	**0.00021**	< 0.8
TWX-07	Supplementary	Seepage	10/31/2021	**2.8**	**670**	**2,600**	**2.5**	**7.7 J**	**3,000**	**7,400**	< 0.002 U	**0.0072**	**0.0032**	**0.020**	< 0.001	**0.0024**	**0.99**	--	**0.013**	**0.0039**	**2.5**	**0.0053**	**0.26**	< 0.0002	**0.20**	**0.0018 J**	**0.0001 J**	--
TWX-08	Supplementary	Seepage	10/31/2021	**2.9**	**650**	**4,000**	**2.2**	**7.5 J**	**6,300**	**6,300**	< 0.002 U	**0.0017 J**	< 0.0018 U	**0.0069**	< 0.001	**0.00065**	**0.0096**	--	**0.019**	**0.017**	**2.2**	< 0.001	**0.22**	< 0.0002	**0.045**	**0.0023**	< 0.0004	--
TWX-09	Supplementary	Seepage	6/1/2021	**0.37**	**760**	**3,000**	**0.76 J**	**7.8 J**	**2,900**	**8,200**	**0.00074 J**	**0.0038**	**--**	**0.0017**	< 0.001	**0.00012**	**0.18**	**--**	**0.0031 J**	**0.015 J**	**0.76 J**	**0.0048**	**0.50**	< 0.0002	**0.14**	**0.0022**	< 0.000035 U	< 0.8
TWX-09	Supplementary	Seepage	10/31/2021	**2.8**	**690**	**2,700**	**2.6**	**7.7 J**	**4,100**	**6,900**	**0.00092 J**	**0.0019**	**0.0020**	**0.0046**	< 0.001	**0.00075**	**1.5**	--	**0.012**	**0.0073**	**2.6**	**0.0020**	**0.23**	< 0.0002	**0.084**	**0.0033**	**0.000096 J**	--
TWX-10	Supplementary	Seepage	6/1/2021	**0.32**	**730**	**3,200**	**0.48 J**	**7.9 J**	**3,000**	**8,700**	< 0.00014 U	**0.0011**	**--**	**0.011**	< 0.001	**0.00014**	**0.057**	**--**	**0.0074**	**0.0066**	**0.48 J**	**0.011**	**0.51**	< 0.0002	**0.022**	**0.0016**	< 0.000017 U	< 0.8
TWX-10	Supplementary	Seepage	10/31/2021	**0.61**	**840**	**9,400**	**0.62 J**	**7.6 J**	**7,000**	**14,000**	**0.00044 J**	**0.0019**	**0.0034**	**0.023**	< 0.001	**0.00026**	**0.041**	--	**0.0039**	**0.0018**	**0.62 J**	**0.0027**	**0.62**	< 0.0002	**0.10**	**0.0031**	< 0.0004	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	2/20/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**17**	**0.8**	< 0.6	--	**3,600**	
M-64A	Background	Alluvial	2/20/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**17**	< 0.4	< 0.6	--	**3,600**	
M-64A	Background	Alluvial	4/12/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	**0.8**	--	**3,700**	
M-64A	Background	Alluvial	4/12/2017	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.5	< 0.6	--	**3,800**	
M-64A	Background	Alluvial	4/25/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	**0.8**	**0.8**	--	**3,600**	
M-64A	Background	Alluvial	5/18/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**14**	< 0.5	**1.3**	--	**3,600**	
M-64A	Background	Alluvial	5/24/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**13**	< 0.3	**1.1**	--	**3,600**	
M-64A	Background	Alluvial	5/24/2017	**530**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	**0.4**	< 0.6	--	**3,700**	
M-64A	Background	Alluvial	6/30/2017	**450**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.7	--	**3,700**	
M-64A	Background	Alluvial	7/27/2017	**470**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.7	--	**3,600**	
M-64A	Background	Alluvial	7/27/2017	**470**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**15**	< 0.4	< 0.7	--	**3,700**	
M-64A	Background	Alluvial	9/7/2017	**460**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	< 0.5	< 0.7	--	**3,700**	
M-64A	Background	Alluvial	12/8/2017	**540**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**14**	--	--	--	**3,000**	
M-64A	Background	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.3**	**0.7**	--	--	
M-64A	Background	Alluvial	5/19/2018	**520**	< 6.0	< 6.0	--	--	--	--	--	--	**200**	--	--	--	--	--	--	--	--	**13**	< 0.5	< 0.7	--	**4,000**	
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/22/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	2/13/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.6	--	--	--
M-64A	Background	Alluvial	4/11/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-64A	Background	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-64A	Background	Alluvial	5/6/2020	**470**	< 6	< 6	--	--	**0.75**	**5.5**	**5.5**	**4.8**	**220**	**2.3**	**1.9**	--	--	< 0.5	--	--	--	**19**	< 0.4	< 0.8	--	**3,800**	**5.5**
M-64A	Background	Alluvial	5/6/2020	**490**	< 6	< 6	--	--	**0.73**	**5.0**	**5.5**	**5.0**	**230**	**2.2**	**1.9**	--	--	< 0.5	--	--	--	**20**	< 0.4	< 0.8	--	**3,400**	**5.1**
M-64A	Background	Alluvial	10/24/2020				--	--	**0.77**	**4.8**	**5.5**	**5.5**		**2**	**2.2**			< 0.25					< 0.4	< 0.8			**4.5**
M-64A	Background	Alluvial	4/15/2021	--	--	--	--	--	**0.88**	**4.6 J**	**6.2**	**5.9**	**250**	**2.4**	**2.3**	--	--	< 0.25	--	--	--	**18**	<0.4	<0.7	--	**3,800**	--
M-64A	Background	Alluvial	10/22/2021	--	--	--	--	--	**0.77**	**4.5 J**	**6.1**	**6.6**	--	**2.3**	**2.5**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	12/1/2015	**190**	< 6.0	< 6.0	--	--	--	--	--	--	**280**	--	--	--	--	--	--	--	--	**6.4**	**0.4**	< 0.7	**15**	**2,200**	
M-52A	Downgradient	Alluvial/Moqui	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.6	--	--	
M-52A	Downgradient	Alluvial/Moqui	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.4	--	--	
M-52A	Downgradient	Alluvial/Moqui	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.6**	< 0.6	--	--	
M-52A	Downgradient	Alluvial/Moqui	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.6**	< 0.7	--	--	
M-52A	Downgradient	Alluvial/Moqui	2/21/2017	**220**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**6.9**	< 0.5	< 0.6	--	**2,400**	
M-52A	Downgradient	Alluvial/Moqui	2/21/2017	**220**	< 6.0	< 6.0	--	--	--	--	--	--	**260**	--	--	--	--	--	--	--	--	**7.1**	< 0.4	< 0.6	--	**2,600**	
M-52A	Downgradient	Alluvial/Moqui	4/11/2017	**240**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**6.5**	< 0.6	< 0.6	--	**2,400**	
M-52A	Downgradient	Alluvial/Moqui	4/25/2017	**240**	< 6.0	< 6.0	--	--	--	--	--	--	**260**	--	--	--	--	--	--	--	--	**6.6**	**0.9**	< 0.6	--	**2,400**	
M-52A	Downgradient	Alluvial/Moqui	5/18/2017	**250**	< 6.0	< 6.0	--	--	--	--	--	--	**270**	--	--	--	--	--	--	--	--	**6.9**	< 0.4	**0.6**	--	**2,400**	
M-52A	Downgradient	Alluvial/Moqui	5/24/2017	**250**	< 6.0	< 6.0	--	--	--	--	--	--	**280**	--	--	--	--	--	--	--	--	**7.2**	< 0.4	< 0.6	--	**2,500**	
M-52A	Downgradient	Alluvial/Moqui	6/30/2017	**190**	< 6.0	< 6.0	--	--	--	--	--	--	**250**	--	--	--	--	--	--	--	--	**5.6**	< 0.5	< 0.7	--	**2,200**	
M-52A	Downgradient	Alluvial/Moqui	7/28/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**4.7**	< 0.4	< 0.7	--	**2,000**	
M-52A	Downgradient	Alluvial/Moqui	9/7/2017	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**4.6**	**0.6**	< 0.6	--	**2,000**	
M-52A	Downgradient	Alluvial/Moqui	12/7/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**5.2**	--	--	--	**2,000**	
M-52A	Downgradient	Alluvial/Moqui	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.2**	**0.7**	--	--	
M-52A	Downgradient	Alluvial/Moqui	5/20/2018	**230**	< 6.0	< 6.0	--	--	--	--	--	--	**280**	--	--	--	--	--	--	--	--	**6.6**	--	--	--	**2,500**	
M-52A	Downgradient	Alluvial/Moqui	6/7/2018	**220**	< 6.0	< 6.0	--	--	--	--	--	--	**260**	--	--	--	--	--	--	--	--	**5.6**	< 0.4	**0.7**	--	**2,200**	
M-52A	Downgradient	Alluvial/Moqui	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-52A	Downgradient	Alluvial/Moqui	12/8/2018	**230**	< 6.0	< 6.0	--	--	--	--	--	--	**300**	--	--	--	--	--	--	--	--	**7.1**	< 0.5	< 0.7	**14**	**2,600**	--
M-52A	Downgradient	Alluvial/Moqui	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
M-52A	Downgradient	Alluvial/Moqui	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-52A	Downgradient	Alluvial/Moqui	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-52A	Downgradient	Alluvial/Moqui	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-52A	Downgradient	Alluvial/Moqui	4/19/2020	**210 J**	< 6	< 6	--	--	< 0.5	**1.4 J**	**5.0**	**2.9**	**250**	**1.2**	**1.1**	--	--	< 0.5	--	--	--	**8.9**	--	--	--	**2,500**	**1.5**
M-52A	Downgradient	Alluvial/Moqui	10/22/2020				--	--	**0.54**	**1.3**	**0.41**	**0.21**		**1.6**	**1.6**			< 0.25					< 0.5	< 0.8			**1.2**
M-52A	Downgradient	Alluvial/Moqui	4/17/2021	--	--	--	--	--	**0.14**	**1.4**	**4.0**	**3.8**	--	**2.4**	**2.4**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
M-52A	Downgradient	Alluvial/Moqui	10/29/2021	--	--	--	--	--	< 0.05	**1.5 J**	**2.5**	**2.0**	--	**1.8**	**1.9**	--	--	< 0.25	--	--	--	--	**0.5**	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	12/1/2015	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**8.4**	< 0.4	< 0.7	**13**	**1,700**	
M-53A	Downgradient	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	**0.5**	--	--	
M-53A	Downgradient	Alluvial	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.5	--	--	
M-53A	Downgradient	Alluvial	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.4	--	--	
M-53A	Downgradient	Alluvial	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	
M-53A	Downgradient	Alluvial	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.6**	--	--	
M-53A	Downgradient	Alluvial	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	
M-53A	Downgradient	Alluvial	2/21/2017	**96**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.6	--	**1,700**	
M-53A	Downgradient	Alluvial	4/12/2017	**110**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**12**	< 0.5	**0.6**	--	**1,700**	
M-53A	Downgradient	Alluvial	4/25/2017	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**190**	--	--	--	--	--	--	--	--	**6.5**	< 0.4	< 0.6	--	**1,700**	
M-53A	Downgradient	Alluvial	5/18/2017	**98**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.6	--	**1,700**	
M-53A	Downgradient	Alluvial	5/24/2017	**98**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**15**	< 0.4	< 0.4	--	**1,700**	
M-53A	Downgradient	Alluvial	7/1/2017	**97**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**13**	< 0.5	< 0.7	--	**1,700**	
M-53A	Downgradient	Alluvial	7/28/2017	**110**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.7	--	**1,700**	
M-53A	Downgradient	Alluvial	9/7/2017	**170**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**14**	< 0.4	< 0.6	--	**1,700**	
M-53A	Downgradient	Alluvial	12/7/2017	**98**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**13**	--	--	--	**1,600**	
M-53A	Downgradient	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.3**	--	--	
M-53A	Downgradient	Alluvial	5/20/2018	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**13**	< 0.6	< 0.7	--	**1,600**	
M-53A	Downgradient	Alluvial	5/20/2018	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**13**	< 0.6	< 0.7	--	**1,600**	
M-53A	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-53A	Downgradient	Alluvial	12/7/2018	**91**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**13**	< 0.5	**0.9**	**8.9**	**1,500**	--
M-53A	Downgradient	Alluvial	12/7/2018	**92**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**13**	< 0.5	**1.1**	**9.4**	**1,600**	--
M-53A	Downgradient	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.8**	--	--	--
M-53A	Downgradient	Alluvial	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
M-53A	Downgradient	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-53A	Downgradient	Alluvial	4/19/2020	**96**	< 6	< 6	--	--	< 0.5	**1.3**	< 0.03	< 0.1	**210**	**5.0**	**5.0**	--	--	< 0.5	--	--	--	**12 J**	--	--	--	**1,600**	**1.2**
M-53A	Downgradient	Alluvial	4/19/2020	**96**	< 6	< 6	--	--	< 0.5	**1.2**	< 0.03	< 0.1	**210**	**5.2**	**4.8**	--	--	< 0.5	--	--	--	**15 J**	--	--	--	**1,600**	**1.2**
M-53A	Downgradient	Alluvial	10/22/2020				--	--	**0.29 J**	**1.1**	**0.051 J**	**0.051 J**		**5.2**	**4.7**			< 0.25					< 0.5	< 0.8			**0.99**
M-53A	Downgradient	Alluvial	4/17/2021	--	--	--	--	--	**0.22 J**	**1.3 J**	**0.10**	**0.091 J**	--	**4.1**	**4.2**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
M-53A	Downgradient	Alluvial	4/17/2021	--	--	--	--	--	**0.11 J**	**1.2 J**	**0.064 J**	**0.056 J**	--	**4.1**	**4.2**	--	--	< 0.25	--	--	--	--	<0.5	<0.7	--	--	--
M-53A	Downgradient	Alluvial	10/28/2021	--	--	--	--	--	**0.25**	< 1.2 UJ	< 0.1 U	**0.037 J**	--	**4.9**	**5.0**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-55A	Supplementary	Alluvial	12/1/2015	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**140**	--	--	--	--	--	--	--	--	**3.3**	< 0.5	< 0.9	**22**	**2,200**	
M-55A	Supplementary	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.2**	< 0.6	--	--	
M-55A	Supplementary	Alluvial	5/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.5	--	--	
M-55A	Supplementary	Alluvial	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	
M-55A	Supplementary	Alluvial	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.8**	--	--	
M-55A	Supplementary	Alluvial	2/21/2017	**200**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**3.6**	< 0.4	< 0.6	--	**2,900**	
M-55A	Supplementary	Alluvial	4/12/2017	**200**	< 6.0	< 6.0	--	--	--	--	--	--	**140**	--	--	--	--	--	--	--	--	**3.1**	< 0.5	**1.4**	--	**2,800**	
M-55A	Supplementary	Alluvial	4/25/2017	**210**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**3.2**	< 0.4	**1.0**	--	**2,900**	
M-55A	Supplementary	Alluvial	5/18/2017	**210**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**3.2**	< 0.4	**1.1**	--	**2,800**	
M-55A	Supplementary	Alluvial	5/24/2017	**210**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**3.1**	< 0.4	**1.5**	--	**2,900**	
M-55A	Supplementary	Alluvial	7/1/2017	**210**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**2.9**	< 0.5	**0.9**	--	**2,800**	
M-55A	Supplementary	Alluvial	7/28/2017	**200**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**2.9**	< 0.4	< 0.7	--	**3,000**	
M-55A	Supplementary	Alluvial	9/7/2017	**210**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**3.1**	< 0.4	**1.2**	--	**2,900**	
M-55A	Supplementary	Alluvial	12/8/2018	**190**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**3.0**	< 0.5	**0.9**	**12**	**2,900**	--
M-55A	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**1.2**	--	--	--
M-55A	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-55A	Supplementary	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-55A	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
M-55A	Supplementary	Alluvial	4/17/2020	**190**	< 6	< 6	--	--	< 0.5	**3.4**	**0.04 J**	< 0.1	**160**	< 0.015	< 0.01	--	--	**0.52**	--	--	--	**6.5**	--	--	--	**2,900**	**3.2**
M-55A	Supplementary	Alluvial	10/24/2020				--	--	< 0.5	**3.2**	**0.17**	**0.057 J**		**0.017**	**0.016**			**0.48**					< 0.4	< 0.8			**3**
M-55A	Supplementary	Alluvial	4/18/2021	--	--	--	--	--	< 0.05	**3.1**	**0.13**	**0.075 J**	--	**0.0038 J**	**0.0039 J**	--	--	**0.62**	--	--	--	--	<0.4	<0.8	--	--	--
M-55A	Supplementary	Alluvial	10/27/2021	--	--	--	--	--	**0.061**	**2.7**	< 0.23 U	**0.042 J**	--	< 0.01 U	< 0.01	--	--	**1.1**	--	--	--	--	< 0.4	**0.9**	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-69A	Supplementary	Alluvial	4/19/2020	**140**	< 6	< 6	--	--	< 0.5	**1.7**	**0.21**	< 0.1	**170**	**8.6**	**8.2**	--	--	< 0.5	--	--	--	**10**	--	--	--	**1,800**	**1.7**
MW-69A	Supplementary	Alluvial	10/23/2020				--	--	< 0.5	**1.5**	**2.3**	**1.1**		**8.2**	**8.1**			< 0.25					< 0.4	< 0.8			**1.5**
MW-69A	Supplementary	Alluvial	4/17/2021	--	--	--	--	--	< 0.05	**1.5**	**0.50**	**0.17**	--	**1.7**	**0.66**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
MW-69A	Supplementary	Alluvial	10/29/2021	--	--	--	--	--	**0.039 J**	**1.6**	**0.61**	**0.23**	--	**4.2**	**4.2**	--	--	< 0.25	--	--	--	--	**0.6**	< 0.6	--	--	--
MW-70M	Supplementary	Moqui	4/19/2020	**85**	< 6	< 6	--	--	< 0.5	**1.7**	**0.072 J**	< 0.1	**160**	**1.8**	**1.8**	--	--	< 0.5	--	--	--	**11**	--	--	--	**1,500**	**1.3**
MW-70M	Supplementary	Moqui	10/23/2020				--	--	< 0.5	**1.2**	**0.093 J**	**0.09 J**		**1.8**	**1.7**			**0.4**					< 0.4	< 0.8			**1.1**
MW-70M	Supplementary	Moqui	10/23/2020				--	--	< 0.5	**1.1**	**0.085 J**	**0.072 J**		**1.8**	**1.6**			< 0.25					< 0.4	< 0.8			**1**
MW-70M	Supplementary	Moqui	4/17/2021	--	--	--	--	--	< 0.05	**1.3**	**0.087 J**	**0.083 J**	--	**1.8**	**1.9**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
MW-70M	Supplementary	Moqui	10/29/2021	--	--	--	--	--	**0.041 J**	**1.4**	< 0.1 U	**0.065 J**	--	**1.7**	**1.7**	--	--	< 0.25	--	--	--	--	**0.6**	< 0.6	--	--	--
MW-71A	Downgradient	Alluvial	10/30/2021	--	--	--	--	--	**0.39**	**1.3**	< 0.1 U	**0.051 J**	--	**5.4**	**5.3**	--	--	< 0.25	--	--	--	--	< 0.4	**0.8**	--	--	--
MW-72M	Downgradient	Moqui	10/30/2021	--	--	--	--	--	**1.5**	**1.7**	< 0.2 U	**0.095 J**	--	**6.3**	**6.2**	--	--	< 0.25	--	--	--	--	**5.7**	**5.5**	--	--	--
MW-73A	Downgradient	Alluvial	10/30/2021	--	--	--	--	--	**0.13**	**2.4**	< 0.1 U	**0.088 J**	--	**3.3**	**3.2**	--	--	**0.31**	--	--	--	--	**0.5**	< 0.6	--	--	--
MW-74M	Downgradient	Moqui	9/29/2021	**77**	< 6	< 6	**77**	< 6	--	--	**0.24**	--	**150**	--				--				**16**	--	--		--	
MW-74M	Downgradient	Moqui	10/30/2021	--	--	--	--	--	**0.054**	**1.1**	**0.57**	**0.1**	--	**0.096**	**0.088**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-77A	Downgradient	Alluvial	6/3/2021	**230 J**	< 6 UJ	< 6 UJ	**230 J**	< 6 UJ	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**5.2**	--	--	--	**3,200**	--
MW-77A	Downgradient	Alluvial	6/15/2021	**240**	< 6	< 6	**240**	< 6	--	--	**0.083 J**	--	**110**	--	--	--	--	--	--	--	--	**5.2**	--	--	--	--	--
MW-77A	Downgradient	Alluvial	8/2/2021	--	--	--	--	--	< 0.05	**1.3**	**0.036 J**	**0.04 J**	**0.64**	**0.71**	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-77A	Downgradient	Alluvial	10/28/2021	--	--	--	--	--	< 0.05	**1.4**	< 0.1 U	**0.048 J**	--	**0.65**	**0.66**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-78A	Downgradient	Alluvial	6/8/2021	**150**	< 6	< 6	**150**	< 6	--	--	--	--	**130**	--	--	--	--	--	--	--	--	**9.2**	--	--	--	**1,700**	--
MW-78A	Downgradient	Alluvial	6/14/2021	**160**	< 6	< 6	**160**	< 6	--	--	**0.27**	--	**140**	--	--	--	--	--	--	--	--	**9.2**	--	--	--	--	--
MW-78A	Downgradient	Alluvial	8/2/2021	--	--	--	--	--	**0.34**	**0.56**	**0.33**	**0.33**	**5.3**	**5.7**	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-78A	Downgradient	Alluvial	10/28/2021	--	--	--	--	--	**0.32**	**0.68**	< 0.3 U	**0.32**	--	**5.6**	**5.7**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-79A	Downgradient	Alluvial	6/14/2021	**130**	< 6	< 6	**130**	< 6	--	--	**1.6**	--	**95**	--	--	--	--	--	--	--	--	**10**	--	--	--	--	--
MW-79A	Downgradient	Alluvial	6/24/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	6/24/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	6/25/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
MW-79A	Downgradient	Alluvial	8/2/2021	--	--	--	--	--	< 0.05	**0.75**	**0.65**	**0.62**	**3.9 J**	**4.0**	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-79A	Downgradient	Alluvial	10/25/2021	--	--	--	--	--	< 0.05	**0.65**	< 0.24 U	**0.24**	--	**3.8**	**3.8**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
MW-79A	Downgradient	Alluvial	10/25/2021	--	--	--	--	--	< 0.05	**0.67**	< 0.23 U	**0.22**	--	**3.9**	**3.9**	--	--	< 0.25	--	--	--	--	**0.4**	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-301	Supplementary	Alluvial	12/7/2018	**180**	< 6.0	< 6.0	--	--	--	--	--	--	**170**	--	--	--	--	--	--	--	--	**4.6**	< 0.6	< 0.7	**14**	**2,600**	--
W-301	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--	--	--
W-301	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-301	Supplementary	Alluvial	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-301	Supplementary	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-301	Supplementary	Alluvial	4/18/2020	**150**	< 6	< 6	--	--	< 0.5	**3.1**	< 0.03	< 0.1	**160**	**1.8**	**1.7**	--	--	**17**	--	--	--	**9.6**	--	--	--	**4,100**	**2.9**
W-301	Supplementary	Alluvial	10/22/2020				--	--	< 0.5	**2.7**	**0.052 J**	**0.04 J**		**1.6**	**1.6**			**20**					< 0.4	< 0.8			**2.6**
W-301	Supplementary	Alluvial	4/17/2021	--	--	--	--	--	< 0.05	**2.9**	**0.10**	**0.082 J**	--	**1.6**	**1.6**	--	--	**20**	--	--	--	--	<0.4	<0.8	--	--	--
W-301	Supplementary	Alluvial	10/28/2021	--	--	--	--	--	< 0.05	**3.0**	< 0.1 U	**0.039 J**	--	**1.5**	**1.5**	--	--	**16**	--	--	--	--	**0.5**	< 0.6	--	--	--
W-302	Supplementary	Alluvial	12/7/2018	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**120**	--	--	--	--	--	--	--	--	**5.5**	< 0.6	< 0.7	**12**	**1,800**	--
W-302	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.7**	--	--	--
W-302	Supplementary	Alluvial	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	Alluvial	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-302	Supplementary	Alluvial	4/17/2020	**130**	< 6.0	< 6.0	--	--	< 0.5	**1.2 J**	**0.40**	**0.14**	**120**	**0.022 J**	**0.027**	--	--	< 0.5	--	--	--	**6.5**	--	--	--	**1,800**	**0.64 J**
W-302	Supplementary	Alluvial	10/23/2020				--	--	< 0.5	**0.75**	**0.19**	**0.12**		**0.057**	**0.048**			< 0.25					< 0.4	< 0.8			**0.57**
W-302	Supplementary	Alluvial	4/17/2021	--	--	--	--	--	< 0.05	**0.83**	**0.18**	**0.059 J**	--	**0.053**	**0.058**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
W-302	Supplementary	Alluvial	10/30/2021	--	--	--	--	--	< 0.05	**0.77**	< 0.16 U	**0.063 J**	--	**0.1**	**0.098**	--	--	< 0.25	--	--	--	--	**0.6**	< 0.6	--	--	--
W-303	Supplementary	Moqui	4/18/2020	**150**	< 6.0	< 6.0	--	--	--	**1.4**	--	< 0.1	**190**	< 0.50	**0.023**	--	--	< 0.5	--	--	--	**6.8**	--	--	--	**2,100**	**1.4**
W-303	Supplementary	Moqui	10/22/2020				--	--	< 0.5	**1.2**	**0.14**	**0.052 J**		**0.1**	**0.11**			< 0.25					< 0.4	**0.8**			**1.1**
W-303	Supplementary	Moqui	4/17/2021	--	--	--	--	--	< 0.05	**1.4**	**0.17**	**0.11**	--	**0.99**	**0.88**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
W-303	Supplementary	Moqui	10/28/2021	--	--	--	--	--	**0.04 J**	**1.6**	< 0.1 U	**0.062 J**	--	**3.0**	**3.1**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
W-304	Supplementary	Alluvial	12/7/2018	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**100**	--	--	--	--	--	--	--	--	**5.8**	< 0.5	< 0.7	**9.6**	**2,100**	--
W-304	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
W-304	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-304	Supplementary	Alluvial	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-304	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-304	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-304	Supplementary	Alluvial	4/17/2020	**140**	< 6	< 6	--	--	< 0.5	**0.97**	**0.11**	< 0.1	**94**	**0.89**	**0.82**	--	--	< 0.5	--	--	--	**5.0**	--	--	--	**2,100**	**0.70**
W-304	Supplementary	Alluvial	10/23/2020				--	--	< 0.5	**1.3**	**0.2**	**0.18**		**1.2**	**1.1**			< 0.25					< 0.4	< 0.8			**0.62**
W-304	Supplementary	Alluvial	4/18/2021	--	--	--	--	--	< 0.05	**0.70**	**0.15**	**0.10**	--	**0.81**	**0.81**	--	--	< 0.25	--	--	--	--	<0.4	<0.8	--	--	--
W-304	Supplementary	Alluvial	10/28/2021	--	--	--	--	--	< 0.05	**0.82**	< 0.19 U	**0.11**	--	**0.98**	**1.0**	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	12/2/2015	**110**	< 6	< 6	--	--	--	--	--	--	**120**	--	--	--	--	--	--	--	--	**3.8**	--	--	**0.0047**	**1,600**	--
W-305	Downgradient	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	5/11/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	8/27/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	2/21/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.2**	--	--	--	**1,600**	--
W-305	Downgradient	Alluvial	4/11/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.0**	--	--	--	**1,500**	--
W-305	Downgradient	Alluvial	4/24/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.0**	--	--	--	**1,600**	--
W-305	Downgradient	Alluvial	5/22/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.1**	--	--	--	**1,600**	--
W-305	Downgradient	Alluvial	5/24/2017	**110**	< 6	< 6	--	--	--	--	--	--	**120**	--	--	--	--	--	--	--	--	**3.2**	--	--	--	**1,700**	--
W-305	Downgradient	Alluvial	6/29/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**2.8**	--	--	--	**1,500**	--
W-305	Downgradient	Alluvial	7/28/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.1**	--	--	--	**1,500**	--
W-305	Downgradient	Alluvial	9/6/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**2.8**	--	--	--	**1,500**	--
W-305	Downgradient	Alluvial	12/7/2017	**110**	< 6	< 6	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.2**	--	--	--	**1,500**	--
W-305	Downgradient	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.295**	**0.347**	--	--	--
W-305	Downgradient	Alluvial	5/19/2018	**110**	< 6.0	< 6.0	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.0**	< 0.5	< 0.7	--	**1,500**	--
W-305	Downgradient	Alluvial	5/19/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
W-305	Downgradient	Alluvial	12/7/2018	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**3.0**	< 0.5	< 0.7	**11**	**1,500**	--
W-305	Downgradient	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	**0.8**	--	--	--
W-305	Downgradient	Alluvial	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-305	Downgradient	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-305	Downgradient	Alluvial	4/18/2020	**100**	< 6	< 6	--	--	< 0.5	**1.7**	**0.48**	**0.28**	**110**	**8.1**	**7.3**	--	--	< 0.5	--	--	--	**1.4 J**	--	--	--	**1,600**	**1.8**
W-305	Downgradient	Alluvial	10/22/2020				--	--	< 0.5	**1.7 J**	**0.36**	**0.36**		**7.2**	**7**			< 0.25					< 0.4	< 0.8			**1.5**
W-305	Downgradient	Alluvial	4/17/2021	--	--	--	--	--	**0.15**	**1.6 J**	**0.36**	**0.33**	--	**6.9**	**6.7**	--	--	< 0.25	--	--	--	--	<0.5	<0.7	--	--	--
W-305	Downgradient	Alluvial	10/29/2021	--	--	--	--	--	**0.15**	**1.8**	< 0.24 U	**0.24**	--	**6.7**	**6.6**	--	--	< 0.25	--	--	--	--	**0.5**	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	12/2/2015	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**120**	--	--	--	--	--	--	--	--	**5.6**	< 0.4	< 0.7	**11**	**2,500**	
W-306	Downgradient	Alluvial	3/9/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.6	--	--	
W-306	Downgradient	Alluvial	5/11/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.4	--	--	
W-306	Downgradient	Alluvial	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.5**	< 0.6	--	--	
W-306	Downgradient	Alluvial	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.7	--	--	
W-306	Downgradient	Alluvial	2/21/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**240**	--	--	--	--	--	--	--	--	**3.3**	< 0.4	< 0.6	--	**6,100**	
W-306	Downgradient	Alluvial	4/12/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**3.2**	< 0.4	< 0.6	--	**5,600**	
W-306	Downgradient	Alluvial	4/25/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**2.8**	< 0.4	< 0.6	--	**5,800**	
W-306	Downgradient	Alluvial	5/22/2017	**160**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**2.9**	< 0.4	< 0.6	--	**5,700**	
W-306	Downgradient	Alluvial	5/24/2017	**150**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**2.8**	< 0.5	< 0.6	--	**5,700**	
W-306	Downgradient	Alluvial	7/1/2017	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**2.7**	< 0.4	< 0.7	--	**6,000**	
W-306	Downgradient	Alluvial	7/28/2017	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**2.4**	< 0.4	**1.1**	--	**5,400**	
W-306	Downgradient	Alluvial	9/6/2017	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**2.2**	< 0.5	< 0.7	--	**5,700**	
W-306	Downgradient	Alluvial	12/7/2017	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**220**	--	--	--	--	--	--	--	--	**3.1**	--	--	--	**5,100**	
W-306	Downgradient	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.3**	--	--	
W-306	Downgradient	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.2**	--	--	
W-306	Downgradient	Alluvial	5/19/2018	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**210**	--	--	--	--	--	--	--	--	**2.5**	< 0.5	**0.8**	--	**5,900**	
W-306	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	10/26/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-306	Downgradient	Alluvial	12/7/2018	**130**	< 6.0	< 6.0	--	--	--	--	--	--	**230**	--	--	--	--	--	--	--	--	**2.6**	< 0.5	< 0.7	**12**	**5,700**	--
W-306	Downgradient	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
W-306	Downgradient	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-306	Downgradient	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	10/23/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-306	Downgradient	Alluvial	4/19/2020	**130**	< 6	< 6	--	--	< 0.5	**2.7**	< 0.03	< 0.1	**230**	< 0.003	< 0.01	--	--	< 0.5	--	--	--	**9.7 J**	--	--	--	**5,500**	**2.5**
W-306	Downgradient	Alluvial	4/19/2020	**130**	< 6	< 6	--	--	< 0.5	**2.6**	< 0.03	< 0.1	**230**	< 0.015	< 0.01	--	--	< 0.5	--	--	--	**3.6 J**	--	--	--	**5,700**	**2.4**
W-306	Downgradient	Alluvial	10/22/2020				--	--	< 0.5	**2.2**	**0.11**	**0.1**		**0.0011 J**	< 0.01 U			< 0.25					< 0.4	< 0.8			**2.2**
W-306	Downgradient	Alluvial	4/17/2021	--	--	--	--	--	< 0.05	**2.4**	**0.11**	**0.11**	--	**0.011**	**0.0091 J**	--	--	< 0.25	--	--	--	--	<0.4	<0.7	--	--	--
W-306	Downgradient	Alluvial	10/29/2021	--	--	--	--	--	< 0.05	**2.6**	< 0.1 U	**0.083 J**	--	**0.035**	**0.041**	--	--	< 0.25	--	--	--	--	**0.4**	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307	Supplementary	Alluvial	12/8/2018	100	< 6.0	< 6.0	--	--	--	--	--	--	150	--	--	--	--	--	--	--	--	5.4	< 0.5	< 0.7	13	1,700	--
W-307	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	--
W-307	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307	Supplementary	Alluvial	6/25/2019	--	--	--	--	--	--	--	--	--	140	--	--	--	< 0.10	< 0.10	< 0.10	< 0.10	< 0.50	--	--	--	--	1,700	--
W-307	Supplementary	Alluvial	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307	Supplementary	Alluvial	4/17/2020	110	< 6	< 6	--	--	< 0.5	1.6	0.16	< 0.1	130	0.030 J	0.027	--	--	< 0.5	--	--	--	4.2	--	--	--	1,600	1.3
W-307	Supplementary	Alluvial	10/23/2020				--	--	< 0.5	1.2	0.18	0.17		0.042	0.041			< 0.25					< 0.4	< 0.8			1.1 J
W-307	Supplementary	Alluvial	4/18/2021	--	--	--	--	--	< 0.05	1.2	0.19	0.16	--	0.040	0.040	--	--	< 0.25	--	--	--	--	<0.4	<0.7	--	--	--
W-307R	Supplementary	Alluvial	10/28/2021	--	--	--	--	--	0.058	1.3	< 0.33 U	0.22	--	1.8	1.9	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
W-307R	Supplementary	Alluvial	10/28/2021	--	--	--	--	--	< 0.05	< 1.3 U	0.32	0.22	--	1.8	1.9	--	--	< 0.25	--	--	--	--	< 0.3	< 0.6	--	--	--
W-307R	Supplementary	Alluvial	12/1/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/1/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/2/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-307R	Supplementary	Alluvial	12/2/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	12/8/2018	160	< 6.0	< 6.0	--	--	--	--	--	--	120	--	--	--	--	--	--	--	--	7.7	< 0.5	< 0.7	12	1,900	--
W-308	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.6	< 0.7	--	--	--
W-308	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	6/25/2019	--	--	--	--	--	--	--	--	--	120	--	--	--	0.20	0.20	< 0.10	0.20	< 0.50	--	--	--	--	2,100	--
W-308	Supplementary	Alluvial	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-308	Supplementary	Alluvial	4/17/2020	170	< 6	< 6	--	--	< 0.5	1.2	0.031 J	< 0.1	120	0.072	0.073	--	--	< 0.5	--	--	--	6.4	--	--	--	2,100	1.0
W-308	Supplementary	Alluvial	10/24/2020				--	--	< 0.5	0.95	0.12	0.053 J		0.34	0.32			0.68					< 0.4	< 0.8			0.93
W-308	Supplementary	Alluvial	4/18/2021	--	--	--	--	--	< 0.05	1.1	0.071 J	0.049 J	--	0.19	0.19	--	--	< 0.25	--	--	--	--	<0.5	<0.7	--	--	--
W-308	Supplementary	Alluvial	10/28/2021	--	--	--	--	--	< 0.05	1.2 J	0.20	0.18	--	0.38	0.38	--	--	< 0.25	--	--	--	--	0.4	0.9	--	--	--
W-309	Supplementary	Alluvial	12/8/2018	55	< 6.0	< 6.0	--	--	--	--	--	--	34	--	--	--	--	--	--	--	--	12	< 0.5	< 0.7	22	1,700	--
W-309	Supplementary	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-309	Supplementary	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-309	Supplementary	Alluvial	6/25/2019	--	--	--	--	--	--	--	--	--	88	--	--	--	2.7	2.7	< 0.10	2.7	< 0.50	--	--	--	--	1,900	--
W-309	Supplementary	Alluvial	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-309	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-309	Supplementary	Alluvial	5/4/2020	160	< 6	< 6	--	--	< 0.5	< 1	< 0.1	< 0.1	86	0.83	0.83	--	--	2.6	--	--	--	8.9	< 0.4	< 0.8	--	1,800	< 1
W-309	Supplementary	Alluvial	10/24/2020				--	--	< 0.5	0.54	0.11	0.038 J		0.56	0.55			3.2					< 0.4	< 0.8			0.47 J
W-309	Supplementary	Alluvial	4/18/2021	--	--	--	--	--	< 0.05	0.68	0.11	0.076 J	--	0.60	0.57	--	--	2.8	--	--	--	--	<0.4	<0.7	--	--	--
W-309	Supplementary	Alluvial	10/27/2021	--	--	--	--	--	< 0.05	0.83	0.059 J	0.04 J	--	0.41	0.41	--	--	2.8	--	--	--	--	0.4	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	12/2/2015	**99**	< 6.0	< 6.0	--	--	--	--	--	--	**150**	--	--	--	--	--	--	--	--	**2.4**	< 0.4	< 0.7	**9.2**	**1,500**	
W-314	Downgradient	Alluvial	3/10/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.2	< 0.5	--	--	
W-314	Downgradient	Alluvial	5/11/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.3	< 0.5	--	--	
W-314	Downgradient	Alluvial	8/26/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.6	--	--	
W-314	Downgradient	Alluvial	9/22/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.4	< 0.7	--	--	
W-314	Downgradient	Alluvial	2/21/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**2.1**	< 0.4	< 0.6	--	**1,600**	
W-314	Downgradient	Alluvial	4/11/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.9**	< 0.4	< 0.6	--	**1,500**	
W-314	Downgradient	Alluvial	4/25/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.8**	**0.5**	< 0.6	--	**1,600**	
W-314	Downgradient	Alluvial	5/22/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**170**	--	--	--	--	--	--	--	--	**1.9**	< 0.4	< 0.6	--	**1,600**	
W-314	Downgradient	Alluvial	5/24/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**170**	--	--	--	--	--	--	--	--	**1.9**	< 0.5	< 0.6	--	**1,600**	
W-314	Downgradient	Alluvial	6/30/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.6**	< 0.4	< 0.7	--	**1,500**	
W-314	Downgradient	Alluvial	7/28/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.7**	< 0.4	< 0.6	--	**1,500**	
W-314	Downgradient	Alluvial	9/7/2017	**110**	< 6.0	< 6.0	--	--	--	--	--	--	**170**	--	--	--	--	--	--	--	--	**1.7**	< 0.5	< 0.7	--	**1,500**	
W-314	Downgradient	Alluvial	12/7/2017	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**170**	--	--	--	--	--	--	--	--	**2.0**	--	--	--	**1,500**	
W-314	Downgradient	Alluvial	2/15/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.1**	**0.2**	--	--	
W-314	Downgradient	Alluvial	5/20/2018	**100**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.9**	< 0.5	< 0.7	--	**1,500**	
W-314	Downgradient	Alluvial	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	10/24/2018	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-314	Downgradient	Alluvial	12/8/2018	**94**	< 6.0	< 6.0	--	--	--	--	--	--	**160**	--	--	--	--	--	--	--	--	**1.8**	< 0.5	**0.7**	**8.9**	**1,500**	--
W-314	Downgradient	Alluvial	2/15/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	4/16/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.5	< 0.7	--	--	--
W-314	Downgradient	Alluvial	8/1/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-314	Downgradient	Alluvial	4/19/2020	**98**	< 6	< 6	--	--	< 0.5	**1.0**	< 0.03	< 0.1	**170**	**0.063**	**0.057**	--	--	< 0.5	--	--	--	< 0.73	--	--	--	**1,500**	**0.97**
W-314	Downgradient	Alluvial	10/23/2020				--	--	< 0.5	**0.98**	**0.058 J**	**0.04 J**		**0.082**	**0.082**			**4.5**					< 0.4	< 0.8			**0.95**
W-314	Downgradient	Alluvial	4/16/2021	--	--	--	--	--	< 0.05	**1.2**	**0.12**	**0.059 J**	--	**0.096**	**0.070**	--	--	< 0.25	--	--	--	--	<0.4	<0.7	--	--	--
W-314	Downgradient	Alluvial	10/29/2021	--	--	--	--	--	< 0.05	**1.4**	**0.073 J**	**0.058 J**	--	**0.093**	**0.094**	--	--	< 0.25	--	--	--	--	< 0.3	< 0.6	--	--	--

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	3/30/2019	**190**	< 6.0	< 6.0	--	--	--	--	--	--	**110**	--	--	--	--	--	--	--	--	**7.1**	--	--	--	**650**	--
W-317	Supplementary	Alluvial	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	4/17/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	8/8/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	8/9/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	10/24/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	4/16/2020	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
W-317	Supplementary	Alluvial	10/21/2020				--	--	--	--	--	--		--	--			--					< 0.4	< 0.8			--
W-317	Supplementary	Alluvial	4/14/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	<0.4	<0.7	--	--	--
W-317	Supplementary	Alluvial	10/21/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	**0.4**	< 0.6	--	--	--
BAP	Supplementary	Surface Pond	1/5/2012	--	--	--	--	--	--	--	--	--	--	--	--	--	< 2.0	--	< 2.0	< 5.0	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	11/7/2012	**54**	< 6.0	< 6.0	--	--	--	--	--	--	**340**	--	--	--	< 0.20	--	< 0.20	< 1.4	**0.60**	**30**	--	--	--	**2,000**	--
BAP	Supplementary	Surface Pond	11/7/2012	**140**	< 6.0	< 6.0	--	--	--	--	--	--	**310**	--	--	--	--	--	--	--	--	**26**	--	--	--	**2,200**	--
BAP	Supplementary	Surface Pond	3/13/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	3/13/2013	**65.3**	< 5.0	< 5.0	--	--	--	--	--	--	**289**	--	--	--	--	--	--	< 1.8	**0.62**	**28.3**	--	--	--	**1,710**	--
BAP	Supplementary	Surface Pond	9/18/2013	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	9/18/2013	**52**	**8.0**	< 5.0	--	--	--	--	--	--	**287**	--	--	--	--	--	--	--	**3.2**	**26.5**	--	--	--	**768**	--
BAP	Supplementary	Surface Pond	5/22/2014	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.8	--	< 0.8	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	5/22/2014	**97**	< 5.0	--	--	--	--	--	--	--	**375**	--	--	--	--	--	--	< 1.8	< 0.20	**32.8**	--	--	--	**1,830**	--
BAP	Supplementary	Surface Pond	10/13/2014	**63.1**	--	--	--	--	--	--	--	--	**331**	--	--	--	< 0.10	< 0.20	< 0.10	**0.87**	**0.87**	**28.4**	--	--	--	**1,560**	--
BAP	Supplementary	Surface Pond	5/4/2015	**106**	< 5.0	--	--	--	--	--	--	--	**288**	--	--	--	< 0.10	< 0.20	< 0.10	< 0.40	< 0.20	**23.2**	--	--	--	**1,280**	--
BAP	Supplementary	Surface Pond	10/12/2016	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.10	--	< 0.10	--	**1.1**	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	6/7/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	--	**1.5**	**1.5**	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	10/6/2017	--	--	--	--	--	--	--	--	--	--	--	--	--	< 0.50	< 0.50	< 0.50	**0.78**	**0.78**	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	3/30/2019	**120**	< 6.0	< 6.0	--	--	--	--	--	--	**300**	--	--	--	--	--	--	--	--	**28**	--	--	--	**1,500**	--
BAP	Supplementary	Surface Pond	4/29/2019	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAP	Supplementary	Surface Pond	4/16/2021	**120**	**46**	< 6	--	--	< 0.05	--	**0.77**	**0.73**	**300**	**0.064**	**0.065**	--	--	**0.14 J**	--	--	--	**30**	<0.4	<0.7	--	**1,400**	**2.5**
BAP	Supplementary	Surface Pond	10/31/2021	**150**	< 6	< 6	**150**	< 6	< 0.05	**1.9**	**0.93**	**0.054 J**	**290**	**0.13**	**0.12**	--	--	< 0.25	--	--	--	**27**	--	--	--	**1,400**	**3.0**

Groundwater Quality Data for BAP Monitoring Wells

				Additional Analyses																							
			Constituent:	Alkalinity Bicarbonate	Alkalinity Carbonate	Alkalinity Hydroxide	Alkalinity as CaCO3	Alkalinity, Phenolphthalein	Ammonia (as N)	Dissolved Organic Carbon	Iron	Iron	Magnesium	Manganese	Manganese	Nickel	Nitrate as N	Nitrate-Nitrite as N	Nitrite (as N)	Nitrogen	Nitrogen, Kjeldahl, Total	Potassium	Radium 226	Radium 228	SiO2, Silica	Sodium	Total Organic Carbon
			Filtered:	N	N	N	N	N	N	Y	N	Y	N	N	Y	N	N	N	N	N	N	N	N	N	N	N	N
			Units:	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	pCi/L	pCi/L	mg/L	mg/L	mg/L
			BAP BTV	--	--	--			--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
			BAP GWPS	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BAP Toe Drain	Supplementary	Seepage	4/17/2021	150	< 6	< 6	--	--	0.077	--	0.77	0.71	280	2.9	3.0	--	--	< 0.25	--	--	--	17	<0.4	<0.7	--	2,000	1.4
BAP Toe Drain	Supplementary	Seepage	4/17/2021	160	< 6	< 6	--	--	0.075	--	0.68	0.62	280	2.8	2.8	--	--	< 0.25	--	--	--	17	<0.4	<0.7	--	2,100	1.3
BAP Toe Drain	Supplementary	Seepage	10/30/2021	160	< 6	< 6	160	< 6	0.056	1.6	1.0	0.18	290	3.7	3.6	--	--	< 0.25	--	--	--	15	--	--	--	1,900	1.6
BSX-01	Extraction Well	Moqui	6/14/2021	110	< 6	< 6	110	< 6	--	--	0.11	--	250	--	--	--	--	--	--	--	--	16	--	--	--	--	--
BSX-01	Extraction Well	Moqui	6/22/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BSX-01	Extraction Well	Moqui	8/2/2021	--	--	--	--	--	0.28	1.2	0.31	0.29	4.4	4.7	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
BSX-02	Extraction Well	Moqui	8/2/2021	--	--	--	--	--	0.067	1.3	0.23	0.26	2.7	2.8	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
BSX-03	Extraction Well	Moqui	6/26/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BSX-03	Extraction Well	Moqui	6/23/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BSX-03	Extraction Well	Moqui	8/2/2021	--	--	--	--	--	0.27	1.3	0.11	0.083 J	4.0	4.1	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
BSX-04	Extraction Well	Moqui	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BSX-04	Extraction Well	Moqui	6/27/2021	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
BSX-04	Extraction Well	Moqui	8/3/2021	--	--	--	--	--	< 0.05	2.1	0.30	0.28	0.95	1.00	--	--	--	< 0.25	--	--	--	--	0.4	< 0.6	--	--	--
BSX-05	Extraction Well	Alluvial	8/3/2021	--	--	--	--	--	0.23	1.4	0.54	0.56	6.6	6.9	--	--	--	< 0.25	--	--	--	--	< 0.4	< 0.6	--	--	--
Petroglyph	Supplementary	Seepage	4/16/2021	83	< 6	< 6	--	--	0.094	--	0.16	0.12	260	3.1	3.0	--	--	0.15 J	--	--	--	18	<0.4	<0.8	--	1,700	1.7
Petroglyph	Supplementary	Seepage	10/30/2021	74	< 6	< 6	74	< 6	0.061	1.2	0.059 J	0.051 J	250	2.0	2.1	--	--	0.2 J	--	--	--	15	--	--	--	1,500	< 1.1 U
Tanner Wash Seep	Supplementary	Seepage	5/8/2020	76	< 6	< 6	--	--	< 0.5	--	0.73	--	260	1.7	--	--	--	< 0.5	--	--	--	20	--	--	--	1,600	1.0
Tanner Wash Seep	Supplementary	Seepage	4/16/2021	90	< 6	< 6	--	--	0.16	--	2.0	1.8	300	2.3	2.2	--	--	< 0.25	--	--	--	21	<0.4	<0.8	--	1,800	1.3
Tanner Wash Seep	Supplementary	Seepage	10/30/2021	81	< 6	< 6	81	< 6	0.15	1.3	1.9	0.36	280	2.8	2.6	--	--	< 0.25	--	--	--	16	--	--	--	1,600	1.2
TWX-03	Supplementary	Seepage	6/1/2021	72	< 6	< 6	--	--	0.11	--	0.097 J	0.066 J	250	4.5	4.2	--	--	0.16 J	--	--	--	17	< 0.5	< 0.8	--	1700	0.95
TWX-03	Supplementary	Seepage	10/31/2021	73	< 6	< 6	73	< 6	0.15	1.2	0.20	0.071 J	240	3.6	3.6	--	--	< 0.25	--	--	--	13	--	--	--	1,500	< 1.1 U
TWX-04	Supplementary	Seepage	6/1/2021	74	< 6	< 6	--	--	0.41	--	0.056 J	0.06 J	250	3.7	3.7	--	--	< 0.25	--	--	--	17	< 0.5	< 0.8	--	1600	0.84
TWX-04	Supplementary	Seepage	10/31/2021	81	< 6	< 6	81	< 6	0.44	1.5	1.0	0.09 J	230	6.7	7.1	--	--	< 0.25	--	--	--	17	--	--	--	1,600	1.3
TWX-05	Supplementary	Seepage	6/1/2021	92	< 6	< 6	--	--	0.43	--	0.067 J	0.064 J	260	4.5	4.6	--	--	< 0.25	--	--	--	16	< 0.4	< 0.8	--	1700	0.88
TWX-05	Supplementary	Seepage	10/31/2021	71	< 6	< 6	71	< 6	0.42	1.2	0.42	0.14	240	4.0	3.8	--	--	< 0.25	--	--	--	15	--	--	--	1,600	< 1 U
TWX-06	Supplementary	Seepage	6/1/2021	67	< 6	< 6	--	--	0.43	--	0.14	0.055 J	230	3.1	3.1	--	--	< 0.25	--	--	--	12	< 0.4	< 0.8	--	1700	0.91
TWX-06	Supplementary	Seepage	10/31/2021	68	< 6	< 6	68	< 6	0.17	< 1.1 U	0.26	0.06 J	220	2.9	2.9	--	--	< 0.25	--	--	--	10	--	--	--	1,600	< 1.1 U
TWX-07	Supplementary	Seepage	6/1/2021	70	< 6	< 6	--	--	0.30	--	3.0	0.059 J	190	11	8.4	--	--	< 0.25	--	--	--	12	< 0.5	< 0.8	--	2400	1.3
TWX-07	Supplementary	Seepage	10/31/2021	76	< 6	< 6	76	< 6	0.054	< 1.6 U	5.9	1.9	210	9.0	5.9	--	--	< 0.25	--	--	--	9.2	--	--	--	1,700	1.5
TWX-08	Supplementary	Seepage	10/31/2021	95	< 6	< 6	95	< 6	0.13	< 1.4 U	0.05 J	0.035 J	220	4.6	4.5	--	--	< 0.25	--	--	--	12	--	--	--	1,600	< 1.2 U
TWX-09	Supplementary	Seepage	6/1/2021	78	< 6	< 6	--	--	0.06	--	0.83	0.053 J	170	1.5 J	2.4 J	--	--	< 0.25	--	--	--	7.8	< 0.5	< 0.8	--	2300	1.3
TWX-09	Supplementary	Seepage	10/31/2021	90	< 6	< 6	90	< 6	0.17	1.2	0.81	0.20	230	3.7	3.8	--	--	< 0.25	--	--	--	17	--	--	--	1,500	1.0
TWX-10	Supplementary	Seepage	6/1/2021	75	< 6	< 6	--	--	< 0.05	--	0.34	0.063 J	190	0.014	0.022	--	--	< 0.25	--	--	--	8.2	< 0.5	< 0.8	--	2500	1.4
TWX-10	Supplementary	Seepage	10/31/2021	110	< 6	< 6	110	< 6	0.39	3.3	1.2	0.93	210	5.1	4.7	--	--	< 0.25	--	--	--	11	--	--	--	3,100	3.3

Notes:

BTV exceedances are shown in grey shaded cells. GWPS exceedence are shown in red text.

Duplicate sample dates under the same location are either field duplicates or are instances of samples with multiple field/lab sample IDs on the same date.

Abbreviations and Data Qualifiers:

< = less than
BAP = Bottom Ash Pond
BTV = Background Threshold Value
degrees C = degrees Celsius
GWPS = Groundwater Protection Standard
J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
mg/L = milligrams per liter
pCi/L = Picocuries per liter
su = standard units
U = The analyte was analyzed for, but was not detected above the level of the reported sample quantitation limit.
UJ = The analyte was analyzed for but was not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

Appendix E

CCR Groundwater Assessment Monitoring Statistical Evaluation of Lithium Collected from the Bottom Ash Pond Through April 2021

Technical Memorandum

To: Arizona Public Service Company **Project No:** 14-2021-2008

By: Mari Wuollet
Maren Henley, PE **Reviewed by:** Tim Glover

Date: January 31, 2022

Re: **CCR GROUNDWATER ASSESSMENT MONITORING**
STATISTICAL EVALUATION OF LITHIUM
COLLECTED FROM THE BOTTOM ASH POND THROUGH APRIL 2021
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Bottom Ash Pond (BAP) located at the Arizona Public Service Company (APS) Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Geoscience Consulting Strategies LLC (Geoscience Consulting), a subcontractor to Wood Environment and Infrastructure Solutions, Inc. (Wood) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Part 257 (CCR Rule) (Federal Register, 2020).

The BAP is a Site CCR unit that is currently in the corrective action phase of the program based on a statistically significant level (SSL) of cobalt above the established groundwater protection standard (GWPS) in downgradient wells. In 2019 an alternative source demonstration (ASD) was completed in response to a SSL of lithium over its GWPS (Wood, 2019). GWPSs, established for Appendix IV constituents only, are the higher of either the federal Safe Drinking Water Act Maximum Contaminant Level (MCL), an alternative risk-based GWPSs established in the CCR Rule, or the background concentration for each constituent. For the BAP, the lithium GWPS is the background concentration value of 0.31 milligrams per liter (mg/L), based on background well M-64A. In the 2019 ASD, spatially heterogeneous groundwater conditions were outlined in the BAP area which indicate that lithium concentrations may also vary based on geographic location. As noted in Attachment A, in cases of spatial heterogeneity, interwell statistical comparisons are prone to high false positive (or negative) exceedance declarations. Accordingly, intrawell statistical comparisons to establish compliance well-specific GWPSs may serve as an alternative to interwell comparisons (USEPA, 2009).

The statistical evaluation documented herein incorporates data collected from BAP downgradient wells through April 2021 to calculate preliminary intrawell GWPSs for compliance wells M-52A, M-53A, W-305, W-306 and W-314 (the wells included in the 2019 ASD) and supplementary well M-55A.

4600 East Washington Street, Suite 600
Phoenix, Arizona 85034
Tel (602) 733-6000
Fax (602) 733-6100
www.woodplc.com

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation (exploratory data analysis [EDA] and intrawell calculations) conducted by Geoscience Consulting. The results of the evaluation are summarized as follows:

- EDA supports the conclusions of the 2019 ASD that spatial heterogeneity in lithium concentrations exist in groundwater surrounding the BAP;
- Statistical testing supports pooling all data through 2021 for calculation of intrawell GWPSs that can be used to assess future data for MW-52A, MW-53A, W-305, and W-314;
- Calculated intrawell lithium GWPSs for CCR compliance wells are as follows:
    - M-52A is 0.34 mg/L;
    - M-53A is 0.21 mg/L;
    - W-305 is 0.23 mg/L;
    - W-306 is 1.23 mg/L;
    - W-314 is 0.40 mg/L.
- A statistically significant increasing temporal trend is noted for M-55A and W-306 for lithium.

3.0 INCREASING TREND DISCUSSION

The increasing temporal trends at M-55A and W-306 warrant further discussion to recognize that these trends are not indicative of a release from the BAP. In addition to the previous statistical analysis outlining the general spatial heterogeneity around the BAP (Wood, 2019), additional lines of evidence to conclude that the trends at these locations are not due to a BAP release include:

- M-55A is a supplementary well located the farthest upstream from the BAP in Tanner Wash (i.e., it is not a well that is located at the downgradient waste boundary included in the CCR groundwater compliance program to assess whether the BAP is leaking). Supplementary wells W-308, W-309, and compliance well W-314 are all screened in alluvium and located between the BAP and M-55A. Based on the analysis, W-314 appears to have a statistically significant decreasing lithium trend. In addition, the water levels in W-308 and W-309 are typically lower than the water level at M-55A and hydraulically downgradient of M-55A. Figure 1 presents a potentiometric surface map created using water-level measurements collected in October 2021 to show all well locations and relative water levels around the BAP.

- Compliance wells W-306 and W-305 are both screened within the Tanner Wash Alluvium, with W-305 screened below W-306 approximately 50 feet (ft). W-306 is screened from 5015 to 4995 feet above mean sea level (ft amsl) and W-305 is screened from 4965 to 4945 ft amsl. The nearby cutoff wall of the BAP's southern dam is installed within the Tanner Wash Alluvium to an approximate total depth of 4950 ft amsl (100-ft cutoff wall from surface to depth). As a result, alluvium remains between the base of the cutoff wall and bedrock that is a potential seepage pathway. The alluvium and potential seepage pathway are at the same elevation as the screen for W-305. However, there is no (statistical) increasing trend noted for lithium at W-305 at this time. If an increasing temporal trend was indicative of a release from the BAP, an increasing temporal trend would be expected within W-305 before W-306 due to the vertical proximities of screen depths and the total depth of the cutoff wall and alluvium beneath.

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the location of M-55A and W-306 and their well screens compared to other wells closer to the BAP and potential seepage pathways, and without apparent increasing trends at wells closer to the BAP and potential seepage pathways, it is unlikely the increasing trends observed at M-55A and W-306 are caused by a release from the BAP. They are likely due to the documented spatial heterogeneity around the BAP (Wood, 2019).

Considering the results of the statistical evaluation presented in Attachment A, previous ASD (Wood, 2019), and the points discussed above; Wood recommends use of the presented intrawell lithium GWPSs for future BAP water quality analyses at compliance wells. Wood recommends continued trend testing as part of future statistical analyses.

5.0 REFERENCES

Federal Register, 2020. 40 Code of Federal Regulations Part 257 – *Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities*; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments).

United States Environmental Protection Agency (US EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood Environment & Infrastructure Solutions (Wood), 2019. *Alternative Source Demonstration for Lithium at the BAP*. Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum dated June 6, 2019.

FIGURE

Legend

CCR Monitoring Well Location

Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

Alluvial Monitoring Well

Moenkopi Formation (Moqui Member) Monitoring Well

Estimated Alluvial Extent

Approximate Extent of CCR Unit

Notes and Abbreviations:

W-304	Well Identification
5011.41	Alluvial/ Moenkopi Moqui Groundwater Elevation (ft amsl) October 2021
ft amsl	Feet above mean sea level
CCR	Coal Combustion Residuals

0 300 600
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 1

Potentiometric Surface Map
October 2021

Job No.	14-2021-2008
PM:	MBH
Date:	1/7/2022
Scale:	1"= 600'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\BAP LI EDA Tech Memo\BAP LI EDA Tech Memo figures.aprx

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: December 28, 2021

Subject: **Statistical Evaluation of Lithium Bottom Ash Pond Data**
Preliminary Intrawell GWPS Calculations
Arizona Public Service Company Cholla Power Plant– Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the statistical evaluation of lithium data collected from the Bottom Ash Pond (BAP) groundwater monitoring network located at the Arizona Public Service Company (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the Cholla Statistical Data Analysis Work Plan (SDAWP) and the Coal Combustion Residuals (CCR) Rule (Wood, 2018; Federal Register, 2020).

The BAP underwent an Alternative Source Demonstration (ASD) in 2019 in response to statistically significant increases (SSI) in lithium and cobalt concentrations over their respective Groundwater Protection Standards (GWPSs) (Wood, 2019). The GWPS for lithium reflects sample concentrations collected from a designated background monitoring well (i.e., M-64A). The ASD concluded that the lithium SSI declaration resulted from background groundwater lithium concentrations not adequately representing groundwater lithium concentrations observed beneath the BAP. The lithium concentrations in the BAP compliance monitoring wells range between non-detect (<0.2 mg/L) and 1.3 mg/L; the lithium GWPS using sample data from M-64A is equal to 0.31 mg/L. To avoid false-positive SSI declarations for lithium in the future at the BAP, the ASD recommended establishing intrawell lithium GWPSs (Wood, 2019). This Tech Memo describes the premise for the intrawell lithium GWPSs and their calculation. Cobalt remains a constituent of concern at the BAP and is not within the scope of this Tech Memo.

The following sections discuss the Exploratory Data Analysis (EDA) procedures and the preliminary lithium intrawell GWPS calculations for the following BAP compliance monitoring wells: M-52A, M-53A, M-55A, W-305, W-306 and W-314.

Geoscience Consulting Strategies LLC
PO Box 536
Rancho Cordova, CA 95741
Tel: 918-809-2634

2.0 DATA INPUTS

The subject analysis was completed using ProUCL software (United States Environmental Protection Agency [US EPA], 2015). The sampling period for the subject analysis ranges from December 2015 to April 2021. Verbal communications with Wood Environment & Infrastructure Solutions, Inc. (Wood) and APS indicated that the April 2020 sampling event reflects a field sampling anomaly and is, therefore, excluded from this data evaluation. The number of sample events for BAP compliance monitoring wells ranges between 19 and 24.

Supplementary data collected at the BAP are included for relative comparison purposes but are excluded from the intrawell statistical calculations. The sampling period for the supplementary data range from December 2018 to April 2021 with sample counts ranging between 1 and 7.

3.0 INTRAWELL ASSESSMENT OVERVIEW

Purpose: The BAP ASD set the premise for the intrawell statistical comparisons by demonstrating that groundwater conditions beneath the BAP, and surrounding areas, are spatially heterogeneous with respect to lithium concentrations (Wood, 2019). Spatial heterogeneity means that lithium concentrations at one geographic location are not necessarily representative of lithium concentrations at nearby geographic locations. Therefore, interwell statistical comparisons between a compliance monitoring well (e.g., M-52A) and a designated background monitoring well (i.e., MW-64) are inadequate because the comparisons are prone to high false positive (or negative) SSI declarations. When interwell statistical comparisons are inadequate, intrawell statistical comparisons are an alternative method for assessing site compliance (US EPA, 2009).

Approach: In contrast to interwell GWPSs, intrawell GWPSs are calculated specific to each geographic location where there is a compliance monitoring well that is located either downgradient or cross gradient of the BAP. Intrawell GWPSs need special consideration since both background data and compliance data are collected from the same compliance monitoring well. It is necessary to set a timeframe, or period, to designate the monitoring well's background data versus compliance data. It is easy to define this timeframe *a priori,* where data collection prior to the onset CCR Unit operation is designated as "background" and data collection afterward is designated as "compliance". In cases where this designation must be made *a posteriori*, or after a CCR Unit is operational, data-driven evaluation techniques can help determine a defensible timeframe.

The BAP is an *a posteriori* case and requires data-driven evaluations to determine if the lithium sample data collected to date represent a single statistical population. If so, the data can be pooled (or combined) together to establish an intrawell lithium GWPS. Future sampling events within the compliance monitoring well are then compared to this GWPS to assess future CCR Rule compliance at the BAP. The benefits to pooling data under a single timeframe include:

- Higher sample counts resulting in more robust statistical comparisons;
- Lower false positive and false negative SSI declaration rates;
- Help overcome the inadequacies of short and variable sampling frequencies between 2015 and 2017 (e.g., biweekly to quarterly sampling); and
- More representative sample population that captures short-term and long-term temporal variations in lithium concentrations.

Definitions: To limit confusion, this Tech Memo will reference "baseline", in lieu of "background", for *a posteriori* intrawell statistical assessments at the BAP.

4.0 EXPLORATORY DATA ANALYSIS AND INTRAWELL CALCULATIONS

Exploratory Data Analysis (EDA) consist of time series and trend analysis; spatial heterogeneity analysis; outlier analysis; statistical distribution or "goodness of fit" statistics; hypothesis testing and summary statistics. EDA results fed into the statistical method selection for calculating the intrawell GWPS for compliance monitoring wells M-52A, M-53A, M-55A, W-305, W-306 and W-314.

Following are a summary of results from the EDA and intrawell calculations.

Lithium concentrations: Figure 1 presents the range of lithium concentrations at each compliance monitoring well in addition to the supplemental monitoring well locations within the vicinity of the BAP. Figure 1 indicates:

1) lithium concentrations across the sampled area, including M-64A background monitoring well, exceed the 0.4 parts per billion "risk-based alternative" GWPS promulgated under the CCR Rule; and

2) the majority lithium concentrations across the general region exceed the preceding 0.31 mg/L "background" GWPS, especially near Tanner Wash.

The BAP ASD states that lithium concentrations are naturally occurring at the BAP and the range of concentrations shown in Figure 1, and their general spatial distribution, support this statement (Wood, 2019).

Lithium spatial heterogeneity: Figure 2 includes box and whisker plots for compliance monitoring well locations and supplemental monitoring locations (for relative comparison purposes). The box and whisker plots show considerable spatial heterogeneity (e.g., variability) in lithium concentrations among sampling locations and sampling depths.

This figure supports the BAP ASD conclusion that spatial heterogeneity in lithium concentrations exist at the BAP and underscores the need for calculating lithium intrawell GWPSs (Wood, 2019).

Lithium time series: Figures 3 through 8 include time series and trend plots for the BAP compliance monitoring wells. Monitoring wells M-55A and W-306 show statistically significant ($p<0.05$) increasing trends in lithium concentrations over time. The remaining compliance monitoring wells show no visible trends or show visible trends that are statistically insignificant.

Temporal trends can be intrinsic to groundwater systems. However, to have continued and future confidence in the lithium intrawell GWPSs for M-55A and W-306, the increasing trends need further investigation by a hydrogeologist and geochemist to validate they are not indicative of a release at the BAP and, rather, are reflective of intrinsic and ambient groundwater conditions.

Intrawell timeframe selection: The timeframe between 2015 – 2017 (or pre-2017) represents the BAP sampling period that precedes the commencement of the CCR Rule. During this timeframe, samples were collected at a relatively high and variable frequency to meet the minimum sampling requirements put forth by the CCR Rule. Past data evaluations of the pre-2017 data generally indicate:

1) the data are temporally dependent, or correlated, because they are sampled too close in time; data dependence violates some of the assumptions of the statistical methods put forth under the CCR Rule and

2) are not fully representative because they fail to capture the long-term temporal variability in lithium concentrations at the BAP over time.

For these reasons, it is advantageous to increase the sample period to reflect a larger sample population that includes both pre- and post-2017 sample data to calculate the BAP intrawell GWPSs (post-2017 sample data reflect the 2018 to 2021 sample period).

To combine the pre-2017 with the post-2017 sample data it is necessary to determine if the sample data from the two sampling periods represent the same underlying statistical population. Figure 9 illustrates side-by-side box and whisker plots for the two sampling periods within each compliance monitoring well. The figure presents a qualitative comparison and indicates the differences between the two sampling periods are generally weak except for monitoring well W-306. For W-306, the noted difference is likely attributed to the strong temporal trend in lithium concentrations at this monitoring location. A temporal trend will cause the average lithium concentration in the monitoring well to change at a certain rate over time and, thereby, cause recent sample data to reflect a different sample population in comparison to historic sample data within the same monitoring well.

Unlike visual comparisons (e.g., side-by-side box and whisker plots) hypothesis testing can perform statistical comparisons with measured statistical confidence. Specifically, the Kolmogorov-Smirnov (K-S) test and Wilcoxon-Mann-Whitney (WMW) test can determine if the two sampling periods (pre-2017 and post-2017) derive from the same statistical population.

The K-S test is a non-parametric statistical method that compares the population distribution functions, or curves, between two sample populations, in this case the pre-2017 and post-2017 sample periods within a given compliance monitoring well. The K-S test is sensitive to the shape and position of the two distribution curves; the greater the departure between these curves the stronger the indication that the sample populations derive from two different underlying statistical populations. This reflects in the "D Statistics" column shown in Table 1. The null hypothesis is rejected if the "D Statistics" > "D Critical Value" and the "P Value" < 0.05, which corresponds to a 95% confidence level. The null (Ho) and alternative (Ha) hypotheses for the K-S Test are as follows:

Ho: Pre-2017 Li concentration distribution = Post-2017 Li concentration distribution
Ha: Pre-2017 Li concentration distribution ≠ Post-2017 Li concentration distribution

Except for M-55A and W-306, the K-S test results shown in Table 1 suggest the pre-2017 and post-2017 sample periods derive from the same statistical population. The significant departures between the two sample periods for M-55A and W-306 are likely to be a consequence of the statistically significant temporal trends in lithium concentrations within these wells.

While the KS test compares the distance between the two distribution curves, the WMW test is a non-parametric test that determines if two sample populations derive from the same statistical population by comparing their central tendencies (e.g., median values). The test rejects the null hypothesis if the p value < 0.05, which corresponds to a 95% confidence level. The null (Ho) and alternative (Ha) hypotheses for the WMW test are:

Ho: Pre-2017 Li median = Post-2017 Li median
Ha: Pre-2017 Li median ≠ Post-2017 Li median

Table 2 includes the WMW test results. In general, the WMW test results support the K-S test findings.

K-S TEST RESULTS

Well	D Statistic	D Critical Value	P Value	Decision (95% confidence level)*
M52A	.27	.34	.74	Fail to reject Ho; difference is insignificant
M53A	.014	.34	1.0	Fail to reject Ho; difference is insignificant
M55A	0.64	0.36	0.05	Reject Ho; significant difference likely due to increasing trend in Li concentrations over time in well
W-305	0.1	0.38	1	Fail to reject Ho; difference is insignificant
W-306	0.62	0.37	0.028	Reject Ho; significant difference likely due to increasing trend in Li concentrations over time in well
W-314	0.26	0.36	0.83	Fail to reject Ho; difference is insignificant

*Reject Ho if D statistics > D critical value and the p value < 0.05

Table 1.

WMW TEST RESULTS

Well	Pre-2017 Median	Post-2017 Median	P Value	Decision (95% confidence level)*
M52A	0.255	0.25	0.978	Fail to reject Ho; difference is insignificant
M53A	0.2	0.21	0.941	Fail to reject Ho; difference is insignificant
M55A	0.35	0.41	0.02	Reject Ho
W-305	0.21	0.21	0.891	Fail to reject Ho; difference is insignificant
W-306	0.65	0.715	0.023	Reject Ho
W-314	0.32	0.32	0.343	Fail to reject Ho; difference is insignificant

Table 2.

The preponderance of hypothesis testing results support pooling the pre-2017 and post-2017 periods to reflect a single, representative timeframe for calculating the intrawell GWPS for lithium in each compliance monitoring well except for M-55A and W-306.

Intrawell lithium GWPS calculations: The Unified Guidance recommends calculating the Upper Tolerance Limit (UTL) to represent the GWPS when the site-specific GWPS is higher than the MCL or, in this case, the CCR Rule alternative risk-based GWPS. The UTL is designed to be "a reasonable maximum on the likely range of background concentrations" (USEPA, 2009) and, similar to the MCL or "alternative risk-based" GWPS, the UTL can accommodate a statistical hypothesis structure that is reversible, meaning it is appropriate for both compliance and corrective action testing, if necessary. Consequently, the UTL application appropriate for Appendix IV assessment monitoring under the CCR Rule. In general, the UTL represents a sample concentration range, or coverage, that contains a pre-defined proportion of the underlying statistical population. The tolerance limit calculation uses a multiplier ($\boldsymbol{\tau}$) that is based on the selected data coverage (e.g., coverage γ = 95%) and selected confidence level (e.g., a 95% confidence level or α = 0.05). For the subject analysis, γ = 99% and α = 0.05.

For assessment monitoring, ***single point sample concentrations are not compared to the intrawell lithium UTLs***; rather, a statistical comparison is performed using the lower confidence limit of future compliance data. The lower confidence limit reflects the lower boundary within which the central tendency of the compliance data (e.g., mean or median) is expected to reside with measured statistical confidence. If the lower confidence limit exceeds the intrawell UTL GWPS, there is enough statistical evidence to declare an SSI and possibly justify corrective action.

Table 3 includes the calculated intrawell lithium GWPSs for the BAP compliance monitoring wells and includes the UTL calculation type (e.g., parametric or non-parametric) based on data-driven diagnostics. The UTLs in Table 3 were calculated in accordance with the US EPA's Unified Guidance (US EPA, 2009) and using the same approach and methods as the Sedimentation Pond CCR Unit at the Cholla Power Plant.

Special considerations were made for M-55A and W-306 where the UTLs were calculated around the statistically significant ($p<0.05$) temporal trend. The UTLs calculated around the trend are proposed as a 'proof of concept' calculation and their applicability is pending 1) further review of the source to the temporal trend in these compliance monitoring wells and 2) considerations for other statistical methods that might prove more appropriate, such as control charts (US EPA, 2009).

5.0 SUMMARY

Exploratory statistical findings support the recommendation put forth in the BAP's ASD to calculate intrawell GWPSs. As previously determined in the ASD, lithium concentrations across the region exhibit spatial heterogeneity according to sampling location and sampling depth (Figure 2).

This Tech Memo presents preliminary calculations for intrawell lithium GWPSs at the BAP (Table 3). The increasing trends at MW-55A and W-306 need further investigation to confirm trends are not indicative of a release at the BAP but rather are reflective of intrinsic and ambient groundwater conditions. The intrawell GWPSs honor these trends to present a 'proof of concept' in completing the subject analysis. However, alternative intrawell statistical methods (e.g., control plots) should be considered to address these trends over time, if deemed more appropriate.

Lithium Intrawell GWPSs						
	M-52A	M-53A	M-55A	W-305	W-306	W-314
Sampling period*	December 2015 - April 2021	December 2015 - April 2021	December 2015 - April 2021	December 2015 - April 2021	December 2015 - April 2021	December 2015 - April 2021
Sample count	24	23	19	21	22	22
Non-detect frequency	0%	39%	0%	0%	0%	0%
Temporal trend**	---	---	Increasing	---	Increasing	Decreasing
Statistical Distribution***	Parametric	Non-Parametric	Parametric	Non-Parametric	Parametric	Parametric
Outlier Testing****	No Outliers	No Outliers	No Outliers	No Outliers	No Outliers	No Outliers
GWPS Intrawell Method	P-UTL	NP-UTL	P-UTLT	NP-UPL	P-UTLT	P-UTLT
Lithium Intrawell GWPS (mg/L)	**0.34**	**0.21**	**0.55**	**0.23**	**1.23**	**0.40**

*Sampling period does not include the April 2020 sampling event
**Mann-Kendall trend significance ($p<0.05$)
***ProUCL goodness of fit test: parametric (e.g., known distribution) or non-parametric (e.g., no discernable distribution); 95% significance level
****Parametric distributions use the Rosner or Dixon outlier test ($p<0.05$); Non-Parametric distributions use visual interpretation of box and whisker plots
***** Parametric Upper Tolerance Limit (P-UTL); Non-Parametric Upper Tolerance Limit (NP-UTL); Parametric Upper Tolerance Limit with a Trend (P-UTLT)

Table 3.

6.0 REFERENCES

Federal Register, 2020 *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective December 14, 2020.*

United States Environmental Protection Agency (US EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

US EPA, 2015. ProUCL (Version 5.1.1) *User Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*. EPA/600/R-07/041. Washington D.C. October 2015.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared for Arizona Public Service. October 2018.

Wood, 2019. Alternative Source Demonstration for Lithium at the BAP, Arizona Public Service Cholla Power Plan – Navajo County, Arizona. June 6, 2019.

FIGURES

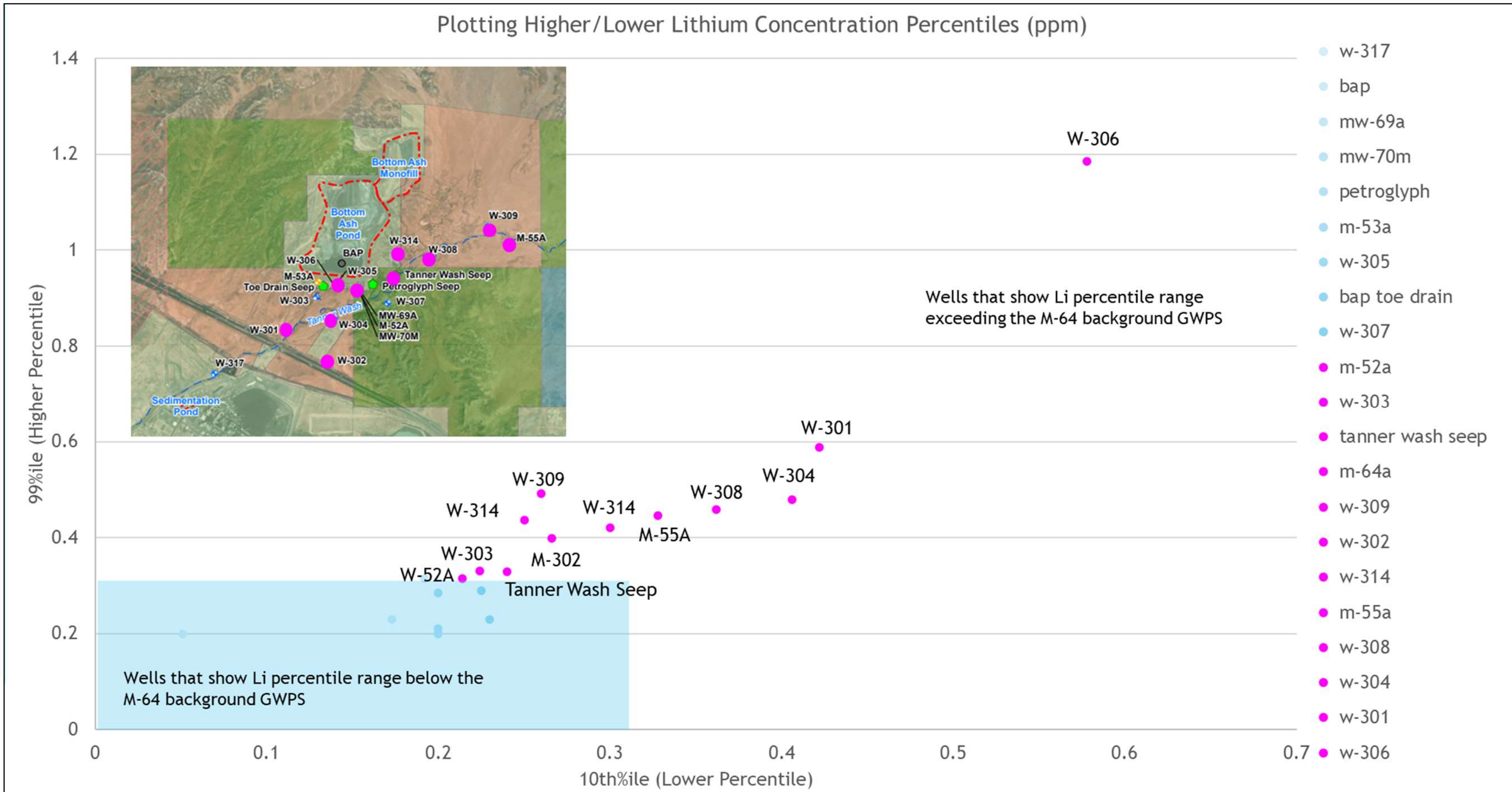


Figure 1. *This informal figure illustrates the general range of lithium concentrations for each sample location. Sampling locations that exceed the preceding 0.31 mg/L background (e.g., M-64A) GWPS are symbolized by a pink dot. Upper and lower percentiles are used (in place of maximum and minimum lithium concentrations) to avoid the influence of potential extreme data anomalies. Note the 0.31 mg/L GWPS reflects pre-2017 sample data at M-64a and does not reflect more recent concentrations sampled at this well.*

The figure inset illustrates the general vicinity of sampling locations to the BAP and Tanner Wash.

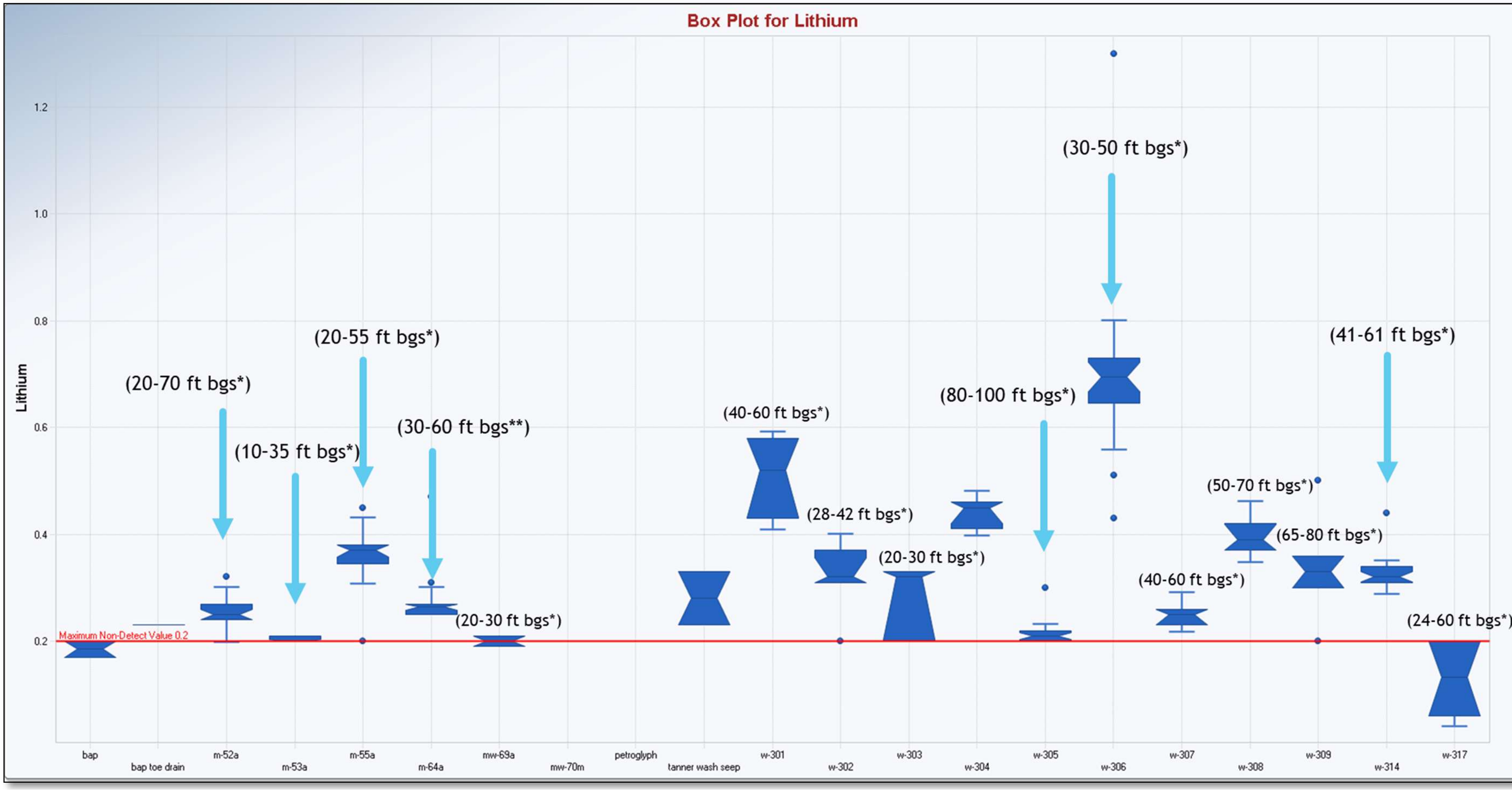


***Figure 2**. Box and whisker plots for compliance monitoring well and supplemental monitoring locations. The well screened intervals are shown in parentheticals above the respective sampling location (feet below ground surface [ft bgs]). Lithium concentrations are shown as parts per million (mg/L).*

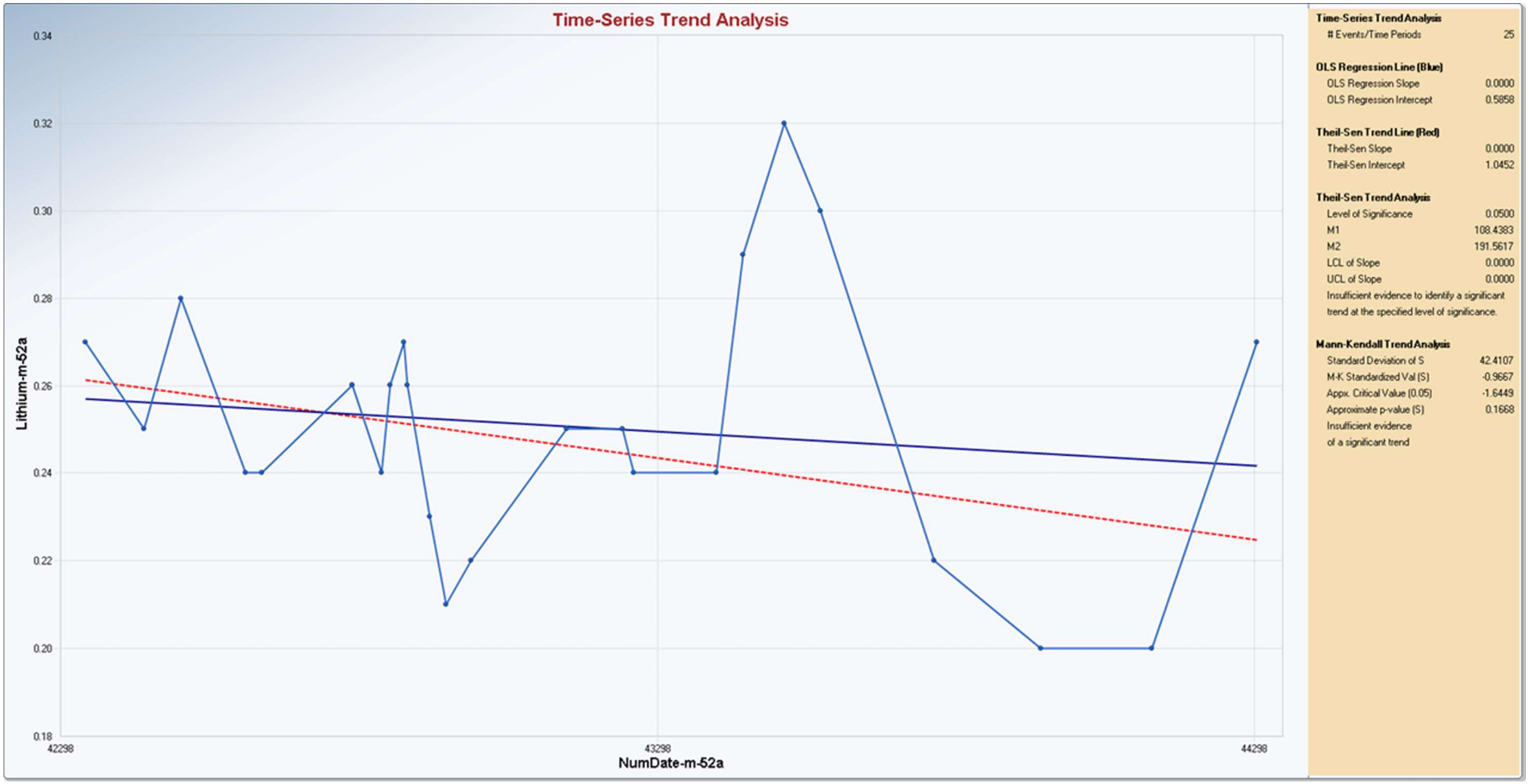


Figure 3. *Time Series and Trend Plot for M-52a. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

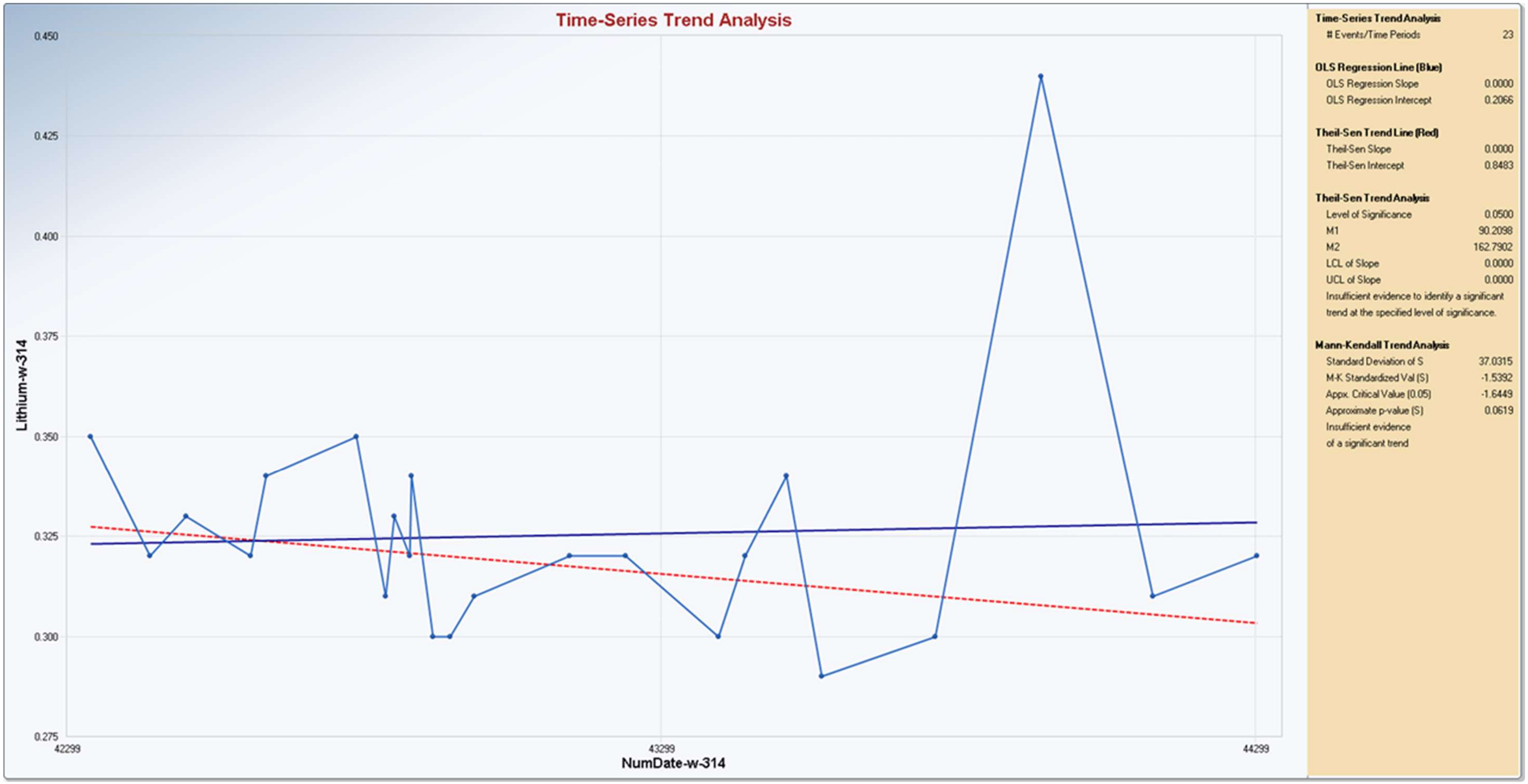


Figure 4. *Time Series and Trend Plot for W-314. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

Figure 5. *Time Series and Trend Plot for M-55a. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

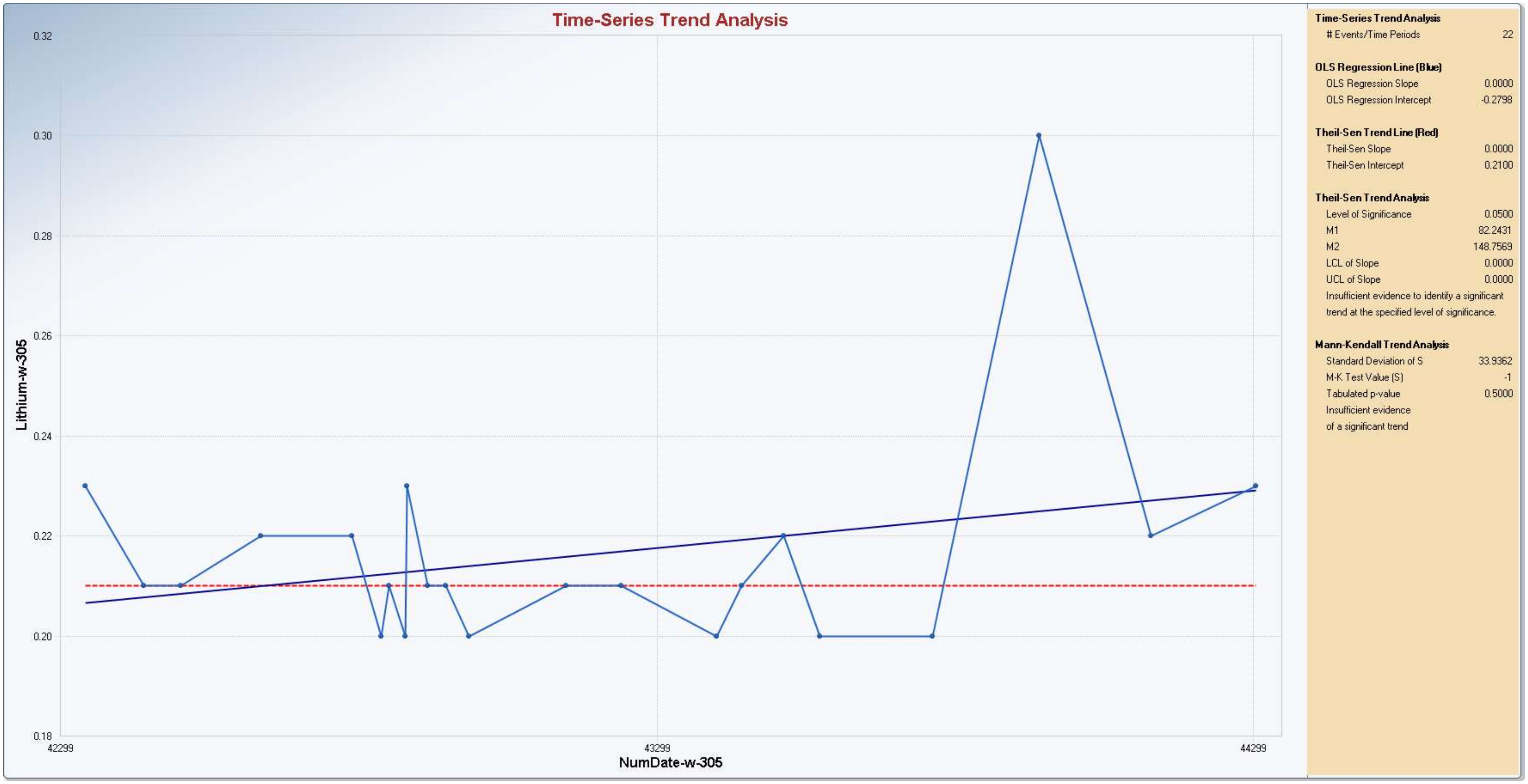


Figure 6. *Time Series and Trend Plot for W-305. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

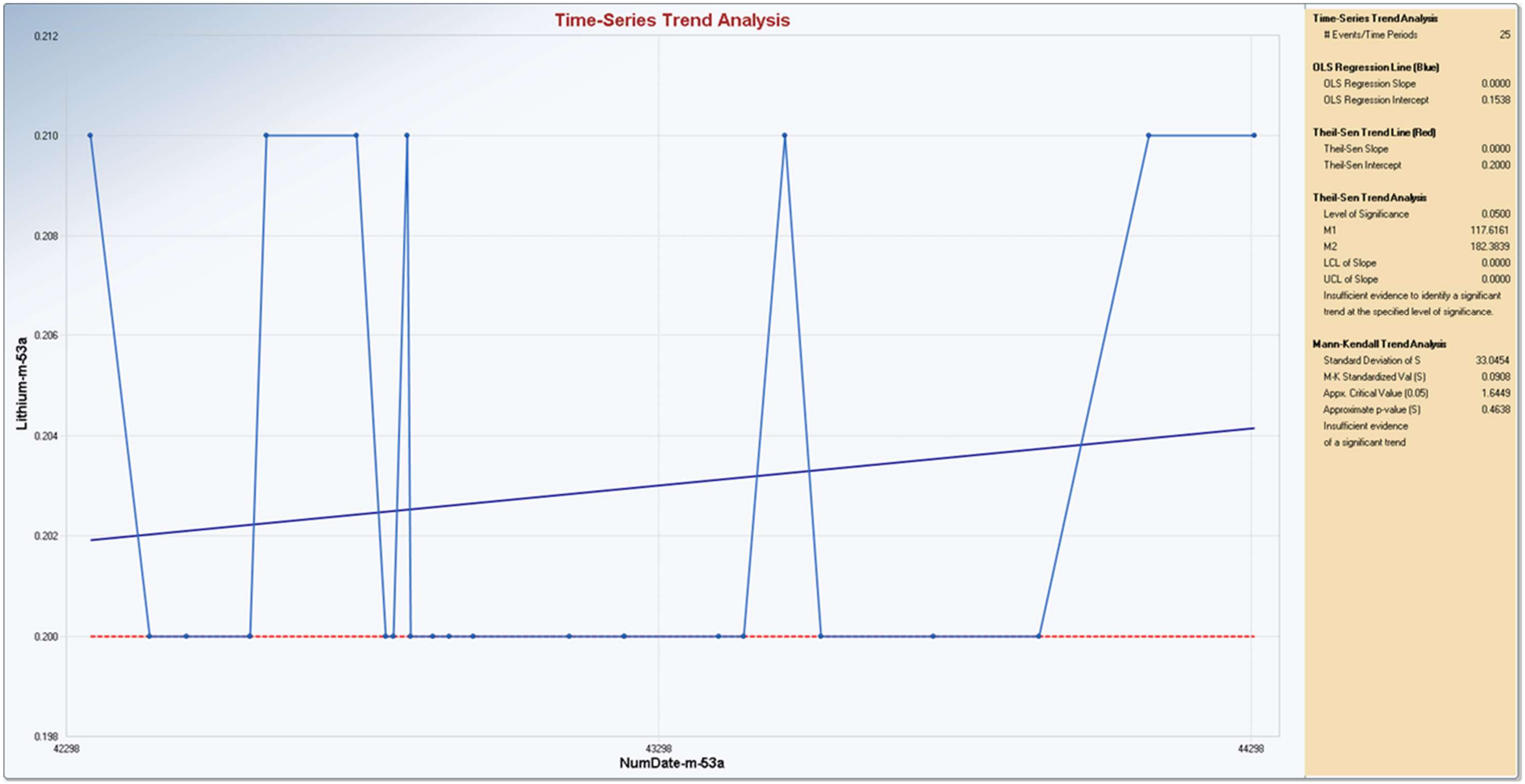


Figure 7. *Time Series and Trend Plot for M-53a. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

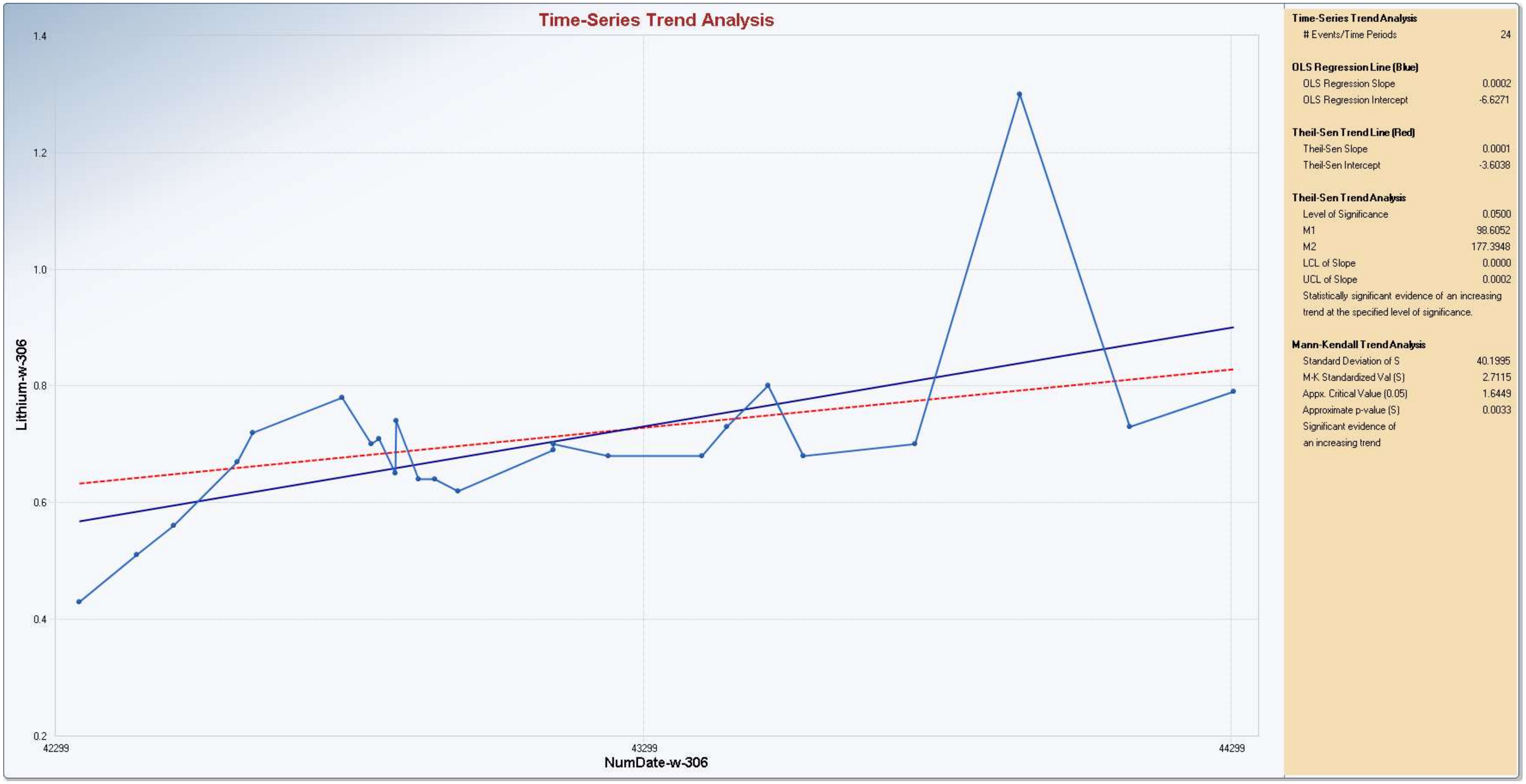


Figure 8. *Time Series and Trend Plot for W-306. Lithium concentrations are in mg/L. The x-axis reflects sampling dates in numeric form, per ProUCL software requirements.*

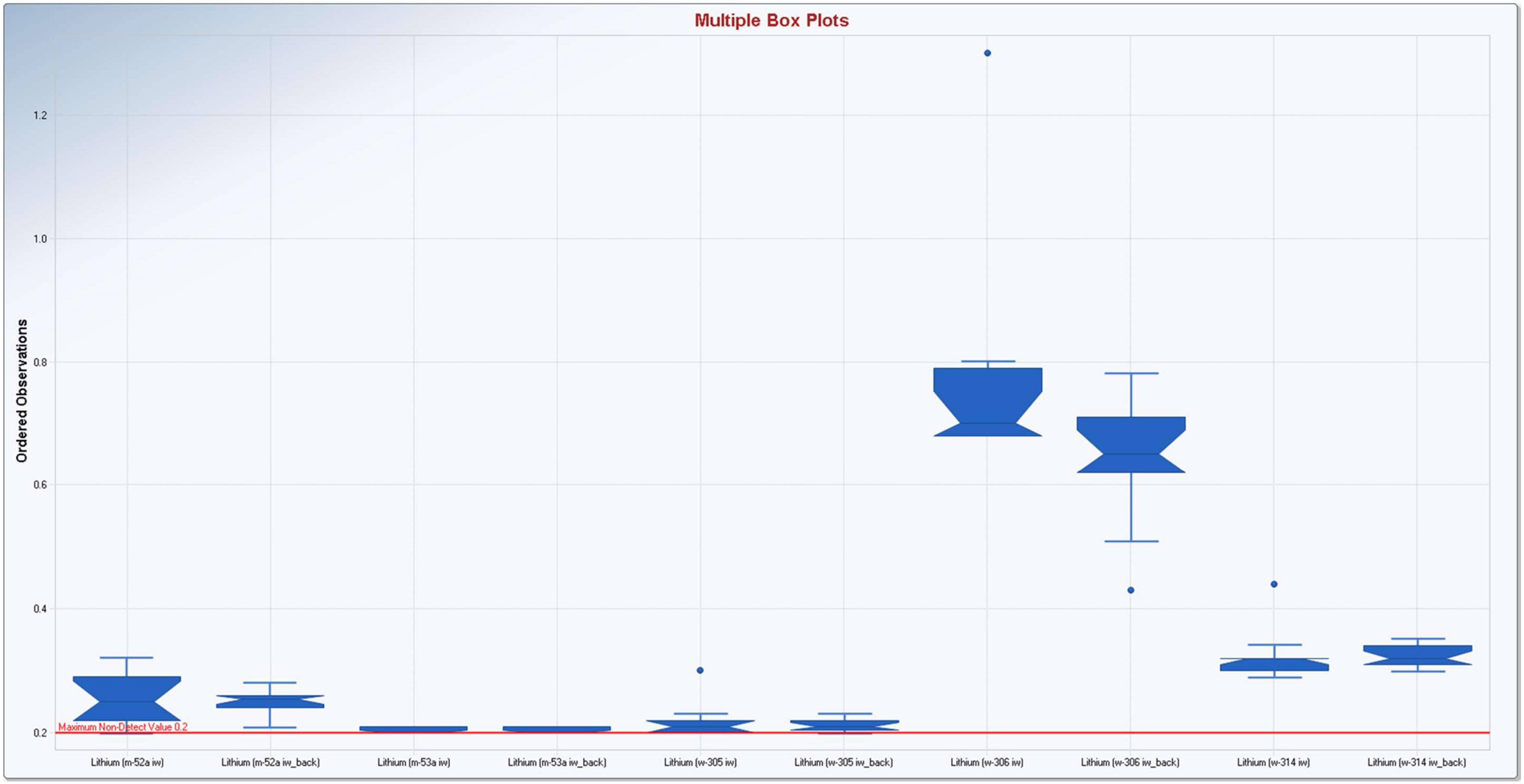
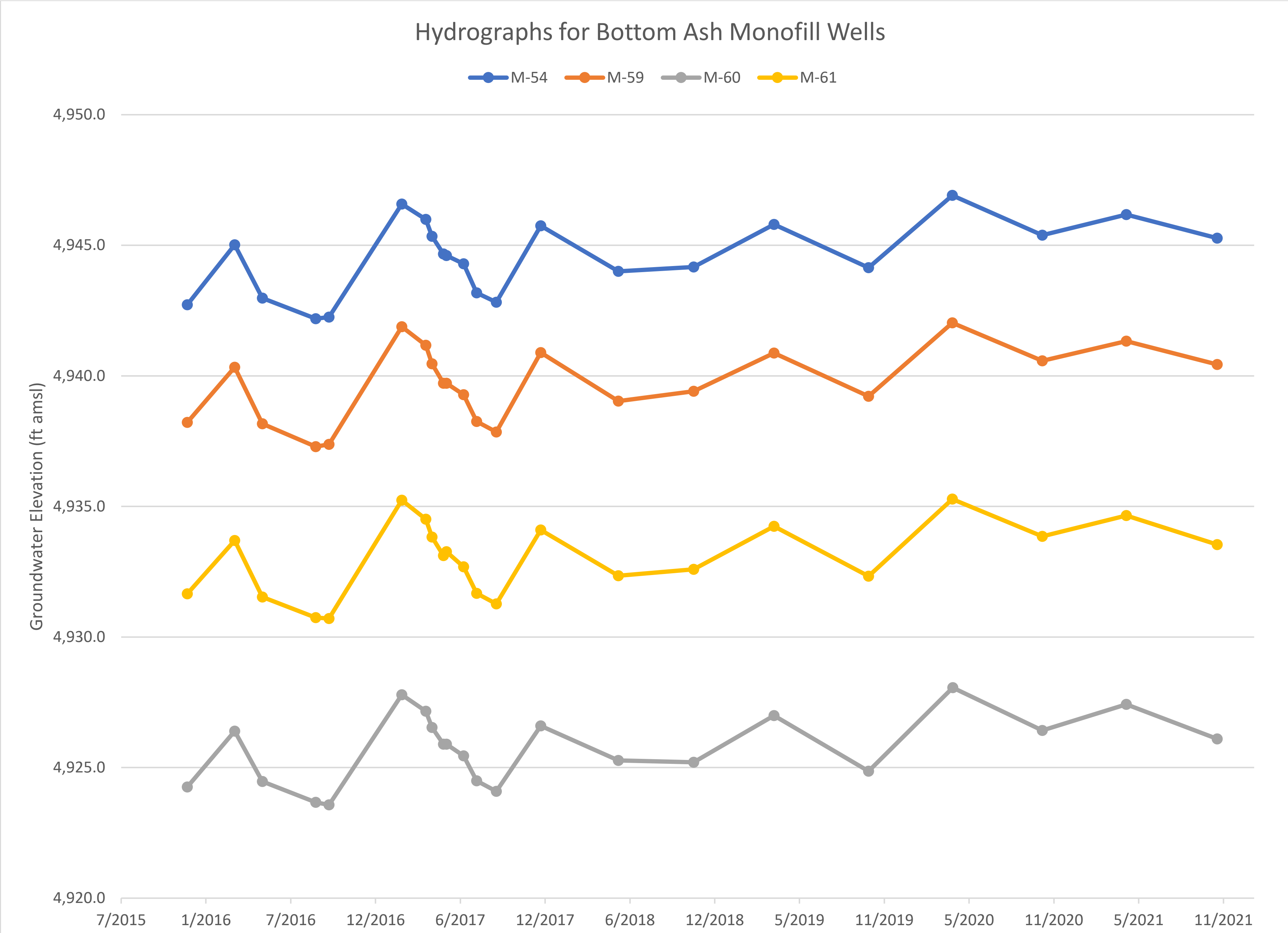
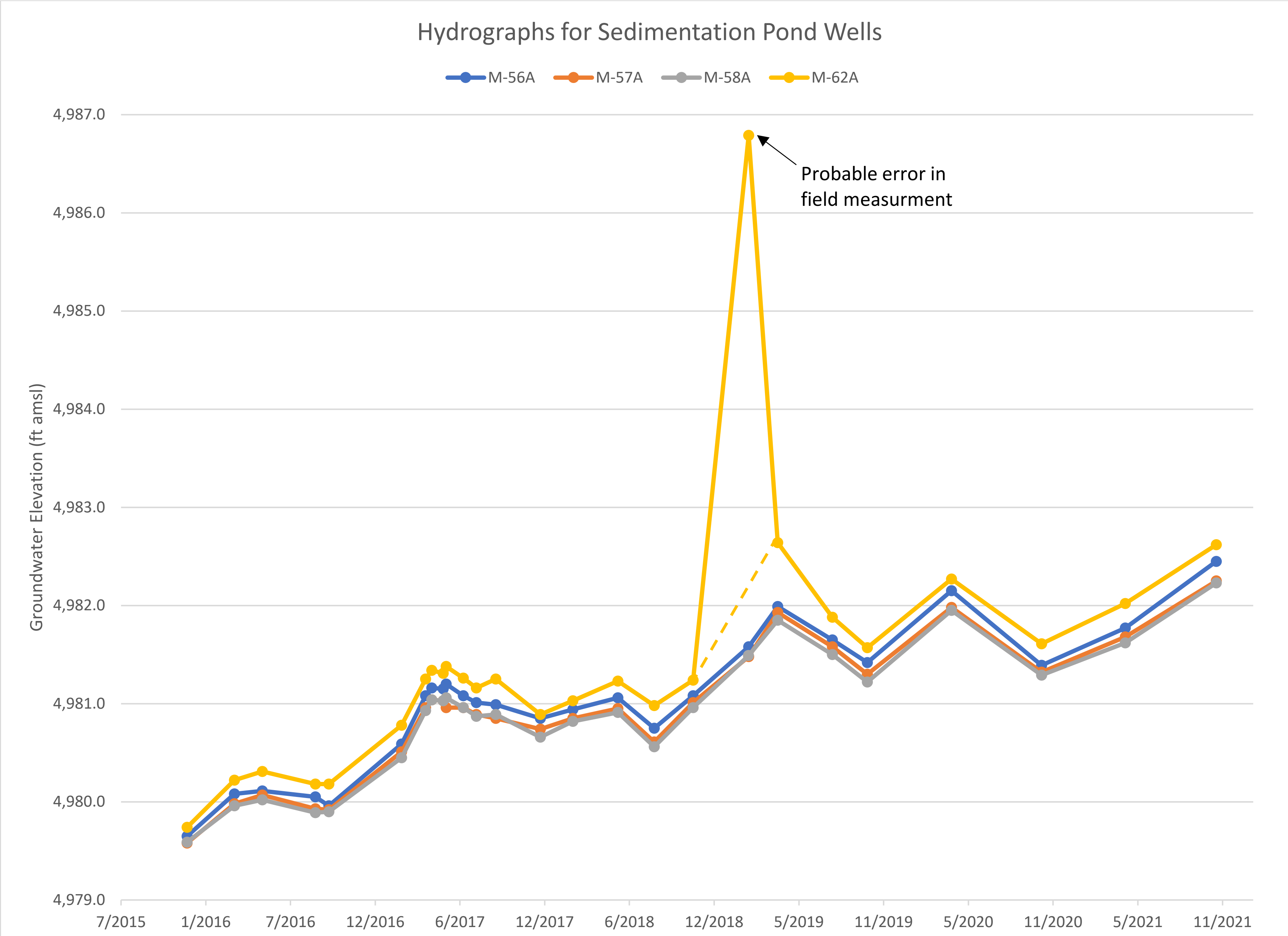


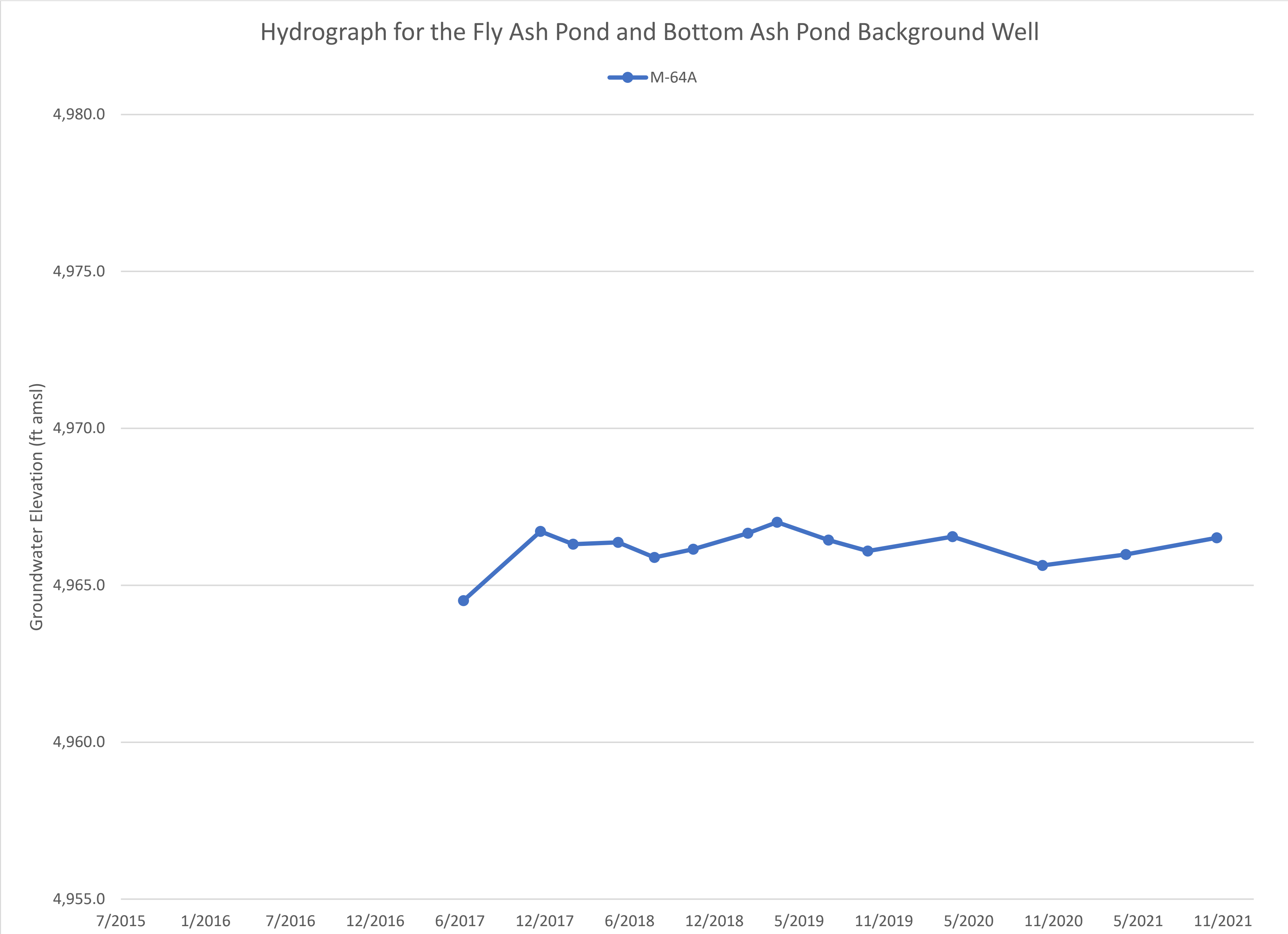
Figure 9. *Box and whisker plots comparing pre-2017 sample data ("iw_back") with post-2017 ("iw") sample data within each BAP compliance monitoring well. Lithium concentrations (y-axis) reflect mg/L.*

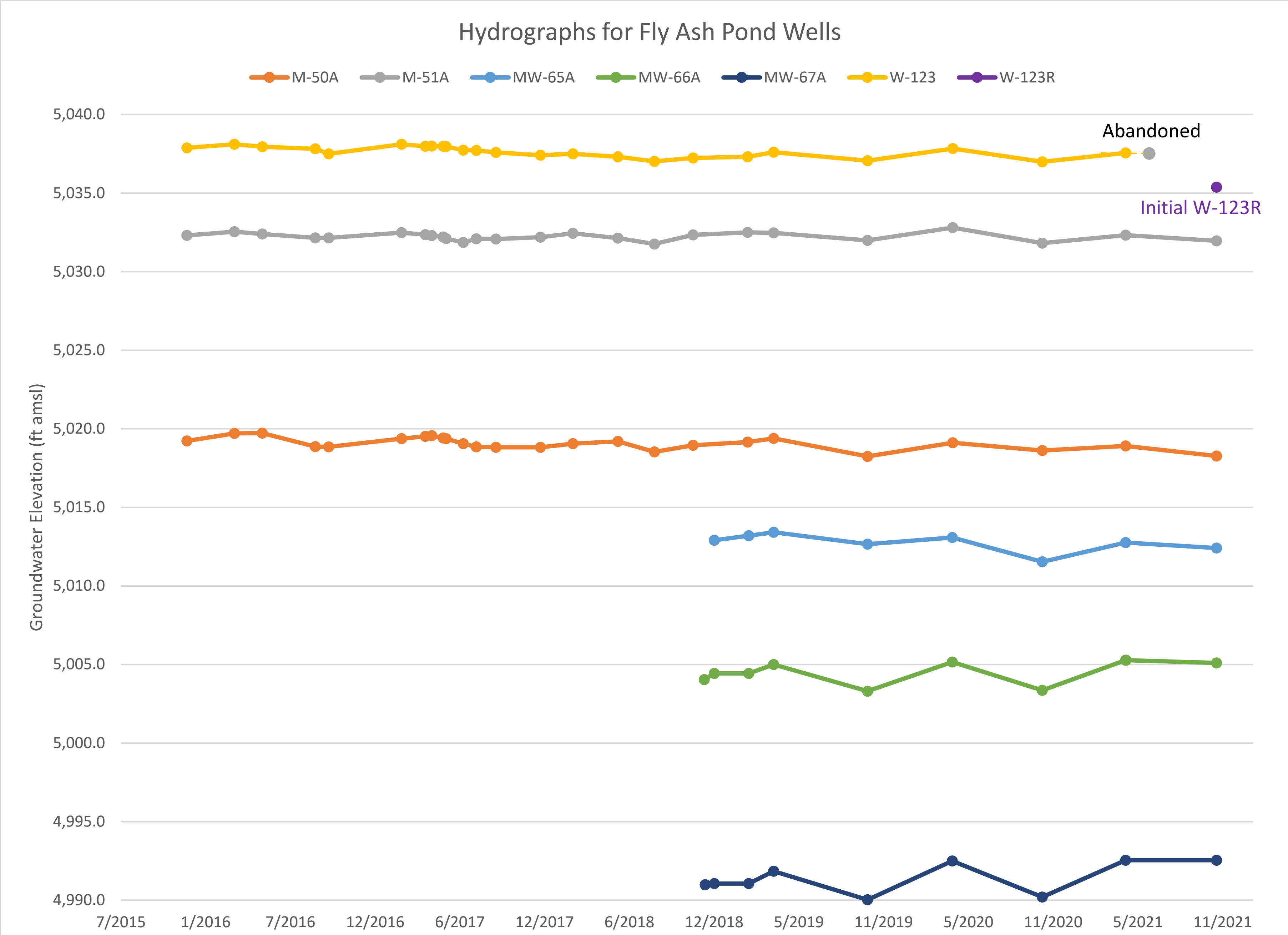
Appendix F

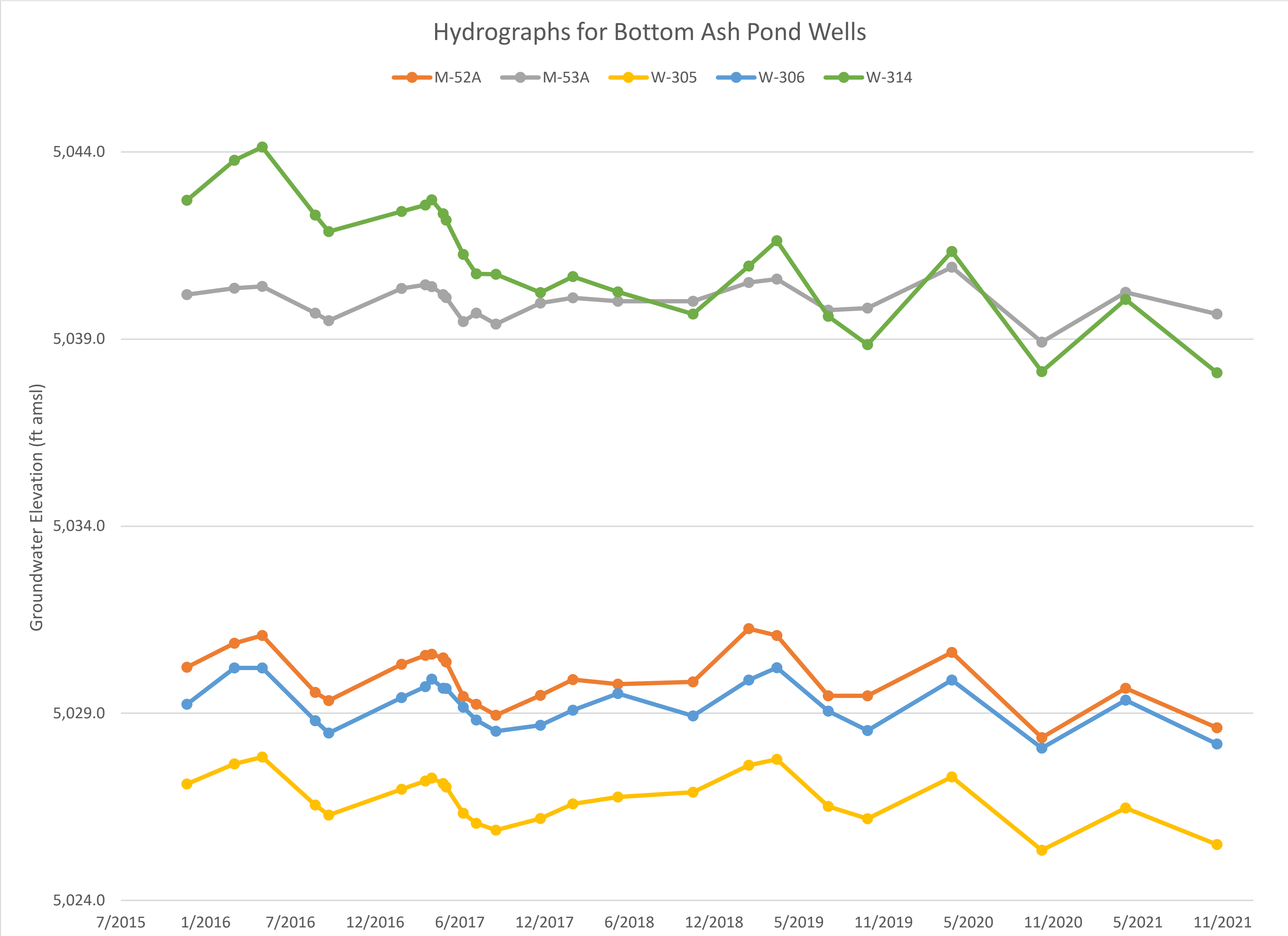
Groundwater Elevation Data and Hydrographs Through 2021


Hydrographs for Bottom Ash Monofill Wells
M-54
M-59
M-60
M-61
Groundwater Elevation (ft amsl)
4,950.0
4,945.0
4,940.0
4,935.0
4,930.0
4,925.0
4,920.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021

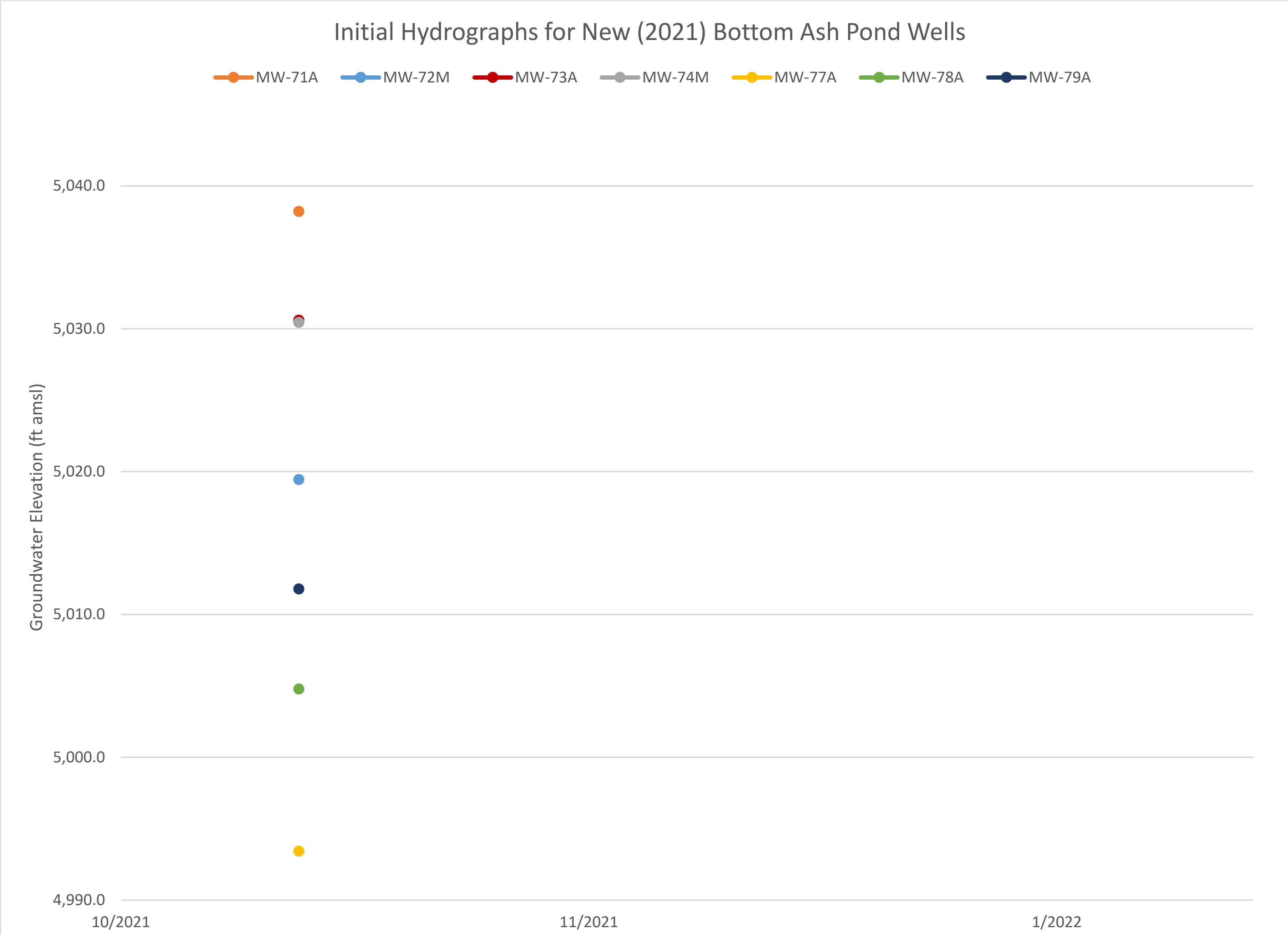

Hydrographs for Sedimentation Pond Wells
M-56A
M-57A
M-58A
M-62A
Groundwater Elevation (ft amsl)
4,987.0
4,986.0
4,985.0
4,984.0
4,983.0
4,982.0
4,981.0
4,980.0
4,979.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021
Probable error in
field measurment


Hydrograph for the Fly Ash Pond and Bottom Ash Pond Background Well
M-64A
Groundwater Elevation (ft amsl)
4,980.0
4,975.0
4,970.0
4,965.0
4,960.0
4,955.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021


Hydrographs for Fly Ash Pond Wells
M-50A
M-51A
MW-65A
MW-66A
MW-67A
W-123
W-123R
Abandoned
Initial W-123R
Groundwater Elevation (ft amsl)
5,040.0
5,035.0
5,030.0
5,025.0
5,020.0
5,015.0
5,010.0
5,005.0
5,000.0
4,995.0
4,990.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021



Hydrographs for Bottom Ash Pond Wells
M-52A
M-53A
W-305
W-306
W-314
Groundwater Elevation (ft amsl)
5,044.0
5,039.0
5,034.0
5,029.0
5,024.0
7/2015
1/2016
7/2016
12/2016
6/2017
12/2017
6/2018
12/2018
5/2019
11/2019
5/2020
11/2020
5/2021
11/2021


Initial Hydrographs for New (2021) Bottom Ash Pond Wells
MW-71A
MW-72M
MW-73A
MW-74M
MW-77A
MW-78A
MW-79A
Groundwater Elevation (ft amsl)
5,040.0
5,030.0
5,020.0
5,010.0
5,000.0
4,990.0
10/2021
11/2021
1/2022

M-50A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5038.18	18.95	5019.23
3/8/2016	5038.18	18.47	5019.71
5/5/2016	5038.18	18.46	5019.72
8/24/2016	5038.18	19.32	5018.86
9/21/2016	5038.18	19.33	5018.85
2/20/2017	5038.18	18.81	5019.37
4/11/2017	5038.18	18.66	5019.52
4/24/2017	5038.18	18.62	5019.56
5/18/2017	5038.18	18.77	5019.41
5/24/2017	5038.18	18.81	5019.37
6/29/2017	5038.18	19.13	5019.05
7/26/2017	5038.18	19.33	5018.85
9/5/2017	5038.18	19.37	5018.81
12/7/2017	5038.18	19.36	5018.82
2/13/2018	5038.18	19.13	5019.05
5/18/2018	5038.18	18.99	5019.19
8/2/2018	5038.18	19.65	5018.53
10/22/2018	5038.18	19.23	5018.95
2/13/2019	5038.18	19.03	5019.15
4/8/2019	5038.18	18.79	5019.39
10/21/2019	5038.18	19.94	5018.24
4/16/2020	5038.18	19.07	5019.11
10/20/2020	5038.18	19.57	5018.61
4/12/2021	5038.18	19.28	5018.90
10/19/2021	5038.18	19.92	5018.26
	Maximum Observed:	*5019.72*	*ft AMSL*
	Minimum Observed:	*5018.24*	*ft AMSL*
	Range:	*1.48*	*ft*

M-51A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5041.77	9.47	5032.30
3/8/2016	5041.77	9.23	5032.54
5/5/2016	5041.77	9.37	5032.40
8/24/2016	5041.77	9.62	5032.15
9/21/2016	5041.77	9.63	5032.14
2/20/2017	5041.77	9.29	5032.48
4/11/2017	5041.77	9.42	5032.35
4/24/2017	5041.77	9.48	5032.29
5/18/2017	5041.77	9.57	5032.20
5/24/2017	5041.77	9.66	5032.11
6/29/2017	5041.77	9.91	5031.86
7/26/2017	5041.77	9.68	5032.09
9/5/2017	5041.77	9.7	5032.07
12/7/2017	5041.77	9.58	5032.19
2/13/2018	5041.77	9.33	5032.44
5/18/2018	5041.77	9.64	5032.13
8/2/2018	5041.77	10.01	5031.76
10/22/2018	5041.77	9.44	5032.33
2/13/2019	5041.77	9.28	5032.49
4/8/2019	5041.77	9.3	5032.47
10/21/2019	5041.77	9.78	5031.99
4/16/2020	5041.77	8.97	5032.80
10/20/2020	5041.77	9.96	5031.81
4/12/2021	5041.77	9.45	5032.32
10/19/2021	5041.77	9.81	5031.96

Maximum Observed: *5032.80* *ft AMSL*
Minimum Observed: *5031.76* *ft AMSL*
Range: *1.04* *ft*

M-52A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5049.36	19.13	5030.23
3/8/2016	5049.36	18.49	5030.87
5/5/2016	5049.36	18.28	5031.08
8/24/2016	5049.36	19.80	5029.56
9/21/2016	5049.36	20.02	5029.34
2/20/2017	5049.36	19.05	5030.31
4/11/2017	5049.36	18.81	5030.55
4/24/2017	5049.36	18.78	5030.58
5/18/2017	5049.36	18.88	5030.48
5/24/2017	5049.36	18.99	5030.37
6/29/2017	5049.36	19.91	5029.45
7/26/2017	5049.36	20.12	5029.24
9/5/2017	5049.36	20.41	5028.95
12/7/2017	5049.36	19.88	5029.48
2/13/2018	5049.36	19.46	5029.90
5/18/2018	5049.36	19.58	5029.78
10/22/2018	5049.36	19.52	5029.84
2/15/2019	5049.36	18.10	5031.26
4/15/2019	5049.36	18.28	5031.08
7/31/2019	5049.36	19.89	5029.47
10/21/2019	5049.36	19.89	5029.47
4/14/2020	5049.36	18.73	5030.63
10/19/2020	5049.36	21.01	5028.35
4/12/2021	5049.36	19.69	5029.67
10/20/2021	5049.36	20.75	5028.61

Maximum Observed: 5031.26 ft AMSL
Minimum Observed: 5028.35 ft AMSL
Range: 2.91 ft

M-53A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5044.68	4.49	5040.19
3/8/2016	5044.68	4.32	5040.36
5/5/2016	5044.68	4.27	5040.41
8/24/2016	5044.68	4.99	5039.69
9/21/2016	5044.68	5.19	5039.49
2/20/2017	5044.68	4.33	5040.35
4/11/2017	5044.68	4.23	5040.45
4/24/2017	5044.68	4.28	5040.40
5/18/2017	5044.68	4.49	5040.19
5/24/2017	5044.68	4.57	5040.11
6/29/2017	5044.68	5.21	5039.47
7/26/2017	5044.68	4.99	5039.69
9/5/2017	5044.68	5.28	5039.40
12/7/2017	5044.68	4.72	5039.96
2/13/2018	5044.68	4.58	5040.10
5/18/2018	5044.68	4.67	5040.01
10/22/2018	5044.68	4.67	5040.01
2/15/2019	5044.68	4.17	5040.51
4/15/2019	5044.68	4.08	5040.60
7/31/2019	5044.68	4.91	5039.77
10/21/2019	5044.68	4.85	5039.83
4/14/2020	5044.68	3.76	5040.92
10/19/2020	5044.68	5.76	5038.92
4/12/2021	5044.68	4.43	5040.25
10/20/2021	5044.68	5.01	5039.67

Maximum Observed: *5040.92* *ft AMSL*
Minimum Observed: *5038.92* *ft AMSL*
Range: *2.00* *ft*

M-54			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5070.71	127.99	4942.72
3/8/2016	5070.71	125.69	4945.02
5/5/2016	5070.71	127.73	4942.98
8/24/2016	5070.71	128.52	4942.19
9/21/2016	5070.71	128.46	4942.25
2/20/2017	5070.71	124.13	4946.58
4/11/2017	5070.71	124.72	4945.99
4/24/2017	5070.71	125.37	4945.34
5/18/2017	5070.71	126.04	4944.67
5/24/2017	5070.71	126.10	4944.61
6/29/2017	5070.71	126.42	4944.29
7/26/2017	5070.71	127.53	4943.18
9/5/2017	5070.71	127.89	4942.82
12/7/2017	5070.71	124.96	4945.75
5/18/2018	5070.71	126.71	4944.00
10/22/2018	5070.71	126.54	4944.17
4/8/2019	5070.71	124.91	4945.80
10/22/2019	5070.71	126.57	4944.14
4/14/2020	5070.71	123.80	4946.91
10/19/2020	5070.71	125.32	4945.39
4/12/2021	5070.71	124.53	4946.18
10/19/2021	5070.71	125.44	4945.27

Maximum Observed: 4946.91 ft AMSL
Minimum Observed: 4942.19 ft AMSL
Range: 4.72 ft

M-56A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5023.17	43.52	4979.65
3/8/2016	5023.17	43.09	4980.08
5/5/2016	5023.17	43.06	4980.11
8/24/2016	5023.17	43.12	4980.05
9/21/2016	5023.17	43.21	4979.96
2/20/2017	5023.17	42.58	4980.59
4/11/2017	5023.17	42.09	4981.08
4/24/2017	5023.17	42.01	4981.16
5/18/2017	5023.17	42.02	4981.15
5/24/2017	5023.17	41.97	4981.20
6/29/2017	5023.17	42.09	4981.08
7/26/2017	5023.17	42.16	4981.01
9/5/2017	5023.17	42.18	4980.99
12/7/2017	5023.17	42.32	4980.85
2/13/2018	5023.17	42.23	4980.94
5/18/2018	5023.17	42.11	4981.06
8/2/2018	5023.17	42.42	4980.75
10/22/2018	5023.17	42.09	4981.08
2/15/2019	5023.17	41.59	4981.58
4/17/2019	5023.17	41.18	4981.99
8/9/2019	5023.17	41.52	4981.65
10/21/2019	5023.17	41.75	4981.42
4/14/2020	5023.17	41.02	4982.15
10/19/2020	5023.17	41.78	4981.39
4/12/2021	5023.17	41.40	4981.77
10/19/2021	5023.17	40.72	4982.45

Maximum Observed: *4982.45* *ft AMSL*
Minimum Observed: *4979.65* *ft AMSL*
Range: *2.80* *ft*

M-57A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5023.82	44.24	4979.58
3/8/2016	5023.82	43.84	4979.98
5/5/2016	5023.82	43.75	4980.07
8/24/2016	5023.82	43.89	4979.93
9/21/2016	5023.82	43.90	4979.92
2/20/2017	5023.82	43.31	4980.51
4/11/2017	5023.82	42.86	4980.96
4/24/2017	5023.82	42.78	4981.04
5/18/2017	5023.82	42.79	4981.03
5/24/2017	5023.82	42.86	4980.96
6/29/2017	5023.82	42.86	4980.96
7/26/2017	5023.82	42.93	4980.89
9/5/2017	5023.82	42.97	4980.85
12/7/2017	5023.82	43.08	4980.74
2/13/2018	5023.82	42.97	4980.85
5/18/2018	5023.82	42.87	4980.95
8/2/2018	5023.82	43.21	4980.61
10/22/2018	5023.82	42.81	4981.01
2/15/2019	5023.82	42.34	4981.48
4/17/2019	5023.82	41.89	4981.93
8/9/2019	5023.82	42.24	4981.58
10/21/2019	5023.82	42.52	4981.30
4/14/2020	5023.82	41.84	4981.98
10/19/2020	5023.82	42.50	4981.32
4/12/2021	5023.82	42.14	4981.68
10/19/2021	5023.82	41.57	4982.25

Maximum Observed:	*4982.25*	*ft AMSL*
Minimum Observed:	*4979.58*	*ft AMSL*
Range:	*2.67*	*ft*

M-58A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5023.84	44.25	4979.59
3/8/2016	5023.84	43.88	4979.96
5/5/2016	5023.84	43.82	4980.02
8/24/2016	5023.84	43.95	4979.89
9/21/2016	5023.84	43.94	4979.90
2/20/2017	5023.84	43.39	4980.45
4/11/2017	5023.84	42.91	4980.93
4/24/2017	5023.84	42.8	4981.04
5/18/2017	5023.84	42.81	4981.03
5/24/2017	5023.84	42.78	4981.06
6/29/2017	5023.84	42.88	4980.96
7/26/2017	5023.84	42.97	4980.87
9/5/2017	5023.84	42.95	4980.89
12/7/2017	5023.84	43.18	4980.66
2/13/2018	5023.84	43.02	4980.82
5/18/2018	5023.84	42.93	4980.91
8/2/2018	5023.84	43.28	4980.56
10/22/2018	5023.84	42.88	4980.96
2/15/2019	5023.84	42.35	4981.49
4/17/2019	5023.84	41.99	4981.85
8/9/2019	5023.84	42.34	4981.50
10/21/2019	5023.84	42.62	4981.22
4/14/2020	5023.84	41.89	4981.95
10/19/2020	5023.84	42.55	4981.29
4/12/2021	5023.84	42.22	4981.62
10/19/2021	5023.84	41.61	4982.23

Maximum Observed: 4982.23 ft AMSL
Minimum Observed: 4979.59 ft AMSL
Range: 2.64 ft

M-59			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5136.00	197.78	4938.22
3/8/2016	5136.00	195.67	4940.33
5/5/2016	5136.00	197.83	4938.17
8/24/2016	5136.00	198.71	4937.29
9/21/2016	5136.00	198.62	4937.38
2/20/2017	5136.00	194.12	4941.88
4/11/2017	5136.00	194.83	4941.17
4/24/2017	5136.00	195.54	4940.46
5/18/2017	5136.00	196.28	4939.72
5/24/2017	5136.00	196.28	4939.72
6/29/2017	5136.00	196.72	4939.28
7/26/2017	5136.00	197.75	4938.25
9/5/2017	5136.00	198.15	4937.85
12/7/2017	5136.00	195.11	4940.89
5/18/2018	5136.00	196.97	4939.03
10/22/2018	5136.00	196.59	4939.41
4/8/2019	5136.00	195.13	4940.87
10/22/2019	5136.00	196.78	4939.22
4/14/2020	5136.00	193.97	4942.03
10/19/2020	5136.00	195.42	4940.58
4/12/2021	5136.00	194.67	4941.33
10/19/2021	5136.00	195.56	4940.44

Maximum Observed:	*4942.03*	*ft AMSL*
Minimum Observed:	*4937.29*	*ft AMSL*
Range:	*4.74*	*ft*

M-60			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5151.18	226.92	4924.26
3/8/2016	5151.18	224.78	4926.40
5/5/2016	5151.18	226.71	4924.47
8/24/2016	5151.18	227.51	4923.67
9/21/2016	5151.18	227.61	4923.57
2/20/2017	5151.18	223.39	4927.79
4/11/2017	5151.18	224.02	4927.16
4/24/2017	5151.18	224.64	4926.54
5/18/2017	5151.18	225.28	4925.90
5/24/2017	5151.18	225.28	4925.90
6/29/2017	5151.18	225.73	4925.45
7/26/2017	5151.18	226.69	4924.49
9/5/2017	5151.18	227.09	4924.09
12/7/2017	5151.18	224.58	4926.60
5/18/2018	5151.18	225.91	4925.27
10/22/2018	5151.18	225.98	4925.20
4/8/2019	5151.18	224.19	4926.99
10/22/2019	5151.18	226.32	4924.86
4/15/2020	5151.18	223.12	4928.06
10/19/2020	5151.18	224.76	4926.42
4/12/2021	5151.18	223.76	4927.42
10/19/2021	5151.18	225.08	4926.10

Maximum Observed:	*4928.06*	*ft AMSL*
Minimum Observed:	*4923.57*	*ft AMSL*
Range:	*4.49*	*ft*

M-61			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5127.58	195.93	4931.65
3/8/2016	5127.58	193.88	4933.70
5/5/2016	5127.58	196.05	4931.53
8/24/2016	5127.58	196.84	4930.74
9/21/2016	5127.58	196.87	4930.71
2/20/2017	5127.58	192.34	4935.24
4/11/2017	5127.58	193.07	4934.51
4/24/2017	5127.58	193.75	4933.83
5/18/2017	5127.58	194.46	4933.12
5/24/2017	5127.58	194.31	4933.27
6/29/2017	5127.58	194.89	4932.69
7/26/2017	5127.58	195.91	4931.67
9/5/2017	5127.58	196.31	4931.27
12/7/2017	5127.58	193.48	4934.10
5/18/2018	5127.58	195.23	4932.35
10/22/2018	5127.58	194.99	4932.59
4/8/2019	5127.58	193.34	4934.24
10/22/2019	5127.58	195.25	4932.33
4/14/2020	5127.58	192.3	4935.28
10/19/2020	5127.58	193.73	4933.85
4/12/2021	5127.58	192.93	4934.65
10/19/2021	5127.58	194.04	4933.54

Maximum Observed:	*4935.28*	*ft AMSL*
Minimum Observed:	*4930.71*	*ft AMSL*
Range:	*4.57*	*ft*

M-62A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5020.87	41.13	4979.74
3/8/2016	5020.87	40.65	4980.22
5/5/2016	5020.87	40.56	4980.31
8/24/2016	5020.87	40.69	4980.18
9/21/2016	5020.87	40.69	4980.18
2/20/2017	5020.87	40.09	4980.78
4/11/2017	5020.87	39.62	4981.25
4/24/2017	5020.87	39.53	4981.34
5/18/2017	5020.87	39.56	4981.31
5/24/2017	5020.87	39.49	4981.38
6/29/2017	5020.87	39.61	4981.26
7/26/2017	5020.87	39.71	4981.16
9/5/2017	5020.87	39.62	4981.25
12/7/2017	5020.87	39.98	4980.89
2/13/2018	5020.87	39.84	4981.03
5/18/2018	5020.87	39.64	4981.23
8/2/2018	5020.87	39.89	4980.98
10/22/2018	5020.87	39.63	4981.24
2/15/2019	5020.87	34.08	4986.79
4/17/2019	5020.87	38.23	4982.64
8/9/2019	5020.87	38.99	4981.88
10/21/2019	5020.87	39.30	4981.57
4/14/2020	5020.87	38.60	4982.27
10/19/2020	5020.87	39.26	4981.61
4/12/2021	5020.87	38.85	4982.02
10/19/2021	5020.87	38.25	4982.62

Maximum Observed: *4982.64 ft AMSL*
Minimum Observed: *4979.74 ft AMSL*
Range: *2.90 ft*

Note: 2/15/2019 reading not included in maximum observed due to probable error in field measurement

MW-65A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/15/2018	5027.86	13.70	5014.16
12/5/2018	5027.86	14.96	5012.90
2/15/2019	5027.86	14.67	5013.19
4/8/2019	5027.86	14.45	5013.41
10/21/2019	5027.86	15.21	5012.65
4/15/2020	5027.86	14.78	5013.08
10/20/2020	5027.86	16.33	5011.53
4/12/2021	5027.86	15.11	5012.75
10/19/2021	5027.86	15.46	5012.4

Maximum Observed: 5014.16 ft AMSL
Minimum Observed: 5011.53 ft AMSL
Range: 2.63 ft

MW-66A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/14/2018	5033.35	29.31	5004.04
12/5/2018	5033.35	28.93	5004.42
2/15/2019	5033.35	28.93	5004.42
4/8/2019	5033.35	28.36	5004.99
10/21/2019	5033.35	30.05	5003.30
4/15/2020	5033.35	28.20	5005.15
10/20/2020	5033.35	30.00	5003.35
4/12/2021	5033.35	28.08	5005.27
4/13/2021	5033.35	28.08	5005.27
10/19/2021	5033.35	28.25	5005.10

Maximum Observed:	*5005.27*	*ft AMSL*
Minimum Observed:	*5003.30*	*ft AMSL*
Range:	*1.97*	*ft*

MW-67A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/16/2018	5025.38	34.4	4990.98
12/5/2018	5025.38	34.32	4991.06
2/15/2019	5025.38	34.32	4991.06
4/8/2019	5025.38	33.54	4991.84
10/21/2019	5025.38	35.36	4990.02
4/15/2020	5025.38	32.88	4992.5
10/20/2020	5025.38	35.18	4990.2
4/12/2021	5025.38	32.84	4992.54
10/19/2021	5025.38	32.84	4992.54

Maximum Observed:	*4992.54*	*ft AMSL*
Minimum Observed:	*4990.02*	*ft AMSL*
Range:	*2.52*	*ft*

M-71A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5050.15	11.93	5038.22

Maximum Observed:	*5038.22*	*ft AMSL*
Minimum Observed:	*5038.22*	*ft AMSL*
Range:	*0.00*	*ft*

M-72A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.67	30.22	5019.45

Maximum Observed:	*5019.45*	*ft AMSL*
Minimum Observed:	*5019.45*	*ft AMSL*
Range:	*0.00*	*ft*

MW-73A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.19	18.59	5030.60

Maximum Observed:	*5030.60*	*ft AMSL*
Minimum Observed:	*5030.60*	*ft AMSL*
Range:	*0.00*	*ft*

MW-74M			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5049.07	18.63	5030.44

Maximum Observed:	*5030.44*	*ft AMSL*
Minimum Observed:	*5030.44*	*ft AMSL*
Range:	*0.00*	*ft*

MW-76A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/19/2021	5033.39	28.35	Dry

Maximum Observed:		*ft AMSL*
Minimum Observed:		*ft AMSL*
Range:	*0.00*	*ft*

MW-77A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5031.02	37.59	4993.43

Maximum Observed:	*4993.43*	*ft AMSL*
Minimum Observed:	*4993.43*	*ft AMSL*
Range:	*0.00*	*ft*

MW-78A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5036.32	31.53	5004.79

Maximum Observed:	*5004.79*	*ft AMSL*
Minimum Observed:	*5004.79*	*ft AMSL*
Range:	*0.00*	*ft*

MW-79A			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/20/2021	5040.30	28.51	5011.79

Maximum Observed:	*5011.79*	*ft AMSL*
Minimum Observed:	*5011.79*	*ft AMSL*
Range:	*0.00*	*ft*

W-123			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5039.84	1.97	5037.87
3/8/2016	5039.84	1.73	5038.11
5/5/2016	5039.84	1.90	5037.94
8/24/2016	5039.84	2.02	5037.82
9/21/2016	5039.84	2.35	5037.49
2/20/2017	5039.84	1.74	5038.10
4/11/2017	5039.84	1.86	5037.98
4/24/2017	5039.84	1.85	5037.99
5/18/2017	5039.84	1.87	5037.97
5/24/2017	5039.84	1.88	5037.96
6/29/2017	5039.84	2.11	5037.73
7/26/2017	5039.84	2.12	5037.72
9/5/2017	5039.84	2.25	5037.59
12/7/2017	5039.84	2.43	5037.41
2/13/2018	5039.84	2.34	5037.50
5/18/2018	5039.84	2.53	5037.31
8/2/2018	5039.84	2.82	5037.02
10/22/2018	5039.84	2.60	5037.24
2/13/2019	5039.84	2.53	5037.31
4/8/2019	5039.84	2.24	5037.60
10/21/2019	5039.84	2.78	5037.06
4/16/2020	5039.84	2.01	5037.83
10/20/2020	5039.84	2.85	5036.99
4/12/2021	5039.84	2.28	5037.56
Well abandonded June 2021			

Maximum Observed: *5038.11 ft AMSL*
Minimum Observed: *5036.99 ft AMSL*
Range: *1.12 ft*

W-123R			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
10/19/2021	5038.83	3.46	5035.37

Maximum Observed: 5035.37 ft AMSL
Minimum Observed: 5035.37 ft AMSL
Range: 0.00 ft

W-305			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5046.80	19.69	5027.11
3/8/2016	5046.80	19.15	5027.65
5/5/2016	5046.80	18.97	5027.83
8/24/2016	5046.80	20.25	5026.55
9/21/2016	5046.80	20.52	5026.28
2/20/2017	5046.80	19.83	5026.97
4/11/2017	5046.80	19.61	5027.19
4/24/2017	5046.80	19.53	5027.27
5/18/2017	5046.80	19.68	5027.12
5/24/2017	5046.80	19.77	5027.03
6/29/2017	5046.80	20.47	5026.33
7/26/2017	5046.80	20.74	5026.06
9/5/2017	5046.80	20.92	5025.88
12/7/2017	5046.80	20.61	5026.19
2/13/2018	5046.80	20.22	5026.58
5/18/2018	5046.80	20.04	5026.76
10/22/2018	5046.80	19.91	5026.89
2/15/2019	5046.80	19.19	5027.61
4/15/2019	5046.80	19.03	5027.77
7/31/2019	5046.80	20.29	5026.51
10/21/2019	5046.80	20.62	5026.18
4/14/2020	5046.80	19.5	5027.30
10/19/2020	5046.80	21.46	5025.34
4/12/2021	5046.80	20.33	5026.47
10/20/2021	5046.80	21.31	5025.49

Maximum Observed: *5027.83* *ft AMSL*

Minimum Observed: *5025.34* *ft AMSL*

Range: *2.49* *ft*

W-306			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5046.74	17.50	5029.24
3/8/2016	5046.74	16.53	5030.21
5/5/2016	5046.74	16.53	5030.21
8/24/2016	5046.74	17.94	5028.80
9/21/2016	5046.74	18.27	5028.47
2/20/2017	5046.74	17.32	5029.42
4/11/2017	5046.74	17.03	5029.71
4/24/2017	5046.74	16.83	5029.91
5/18/2017	5046.74	17.07	5029.67
5/24/2017	5046.74	17.08	5029.66
6/29/2017	5046.74	17.58	5029.16
7/26/2017	5046.74	17.92	5028.82
9/5/2017	5046.74	18.22	5028.52
12/7/2017	5046.74	18.06	5028.68
2/13/2018	5046.74	17.66	5029.08
5/18/2018	5046.74	17.21	5029.53
10/22/2018	5046.74	17.81	5028.93
2/15/2019	5046.74	16.85	5029.89
4/15/2019	5046.74	16.52	5030.22
7/31/2019	5046.74	17.68	5029.06
10/21/2019	5046.74	18.2	5028.54
4/14/2020	5046.74	16.85	5029.89
10/19/2020	5046.74	18.67	5028.07
4/12/2021	5046.74	17.39	5029.35
10/20/2021	5046.74	18.56	5028.18

Maximum Observed: 5030.22 ft AMSL
Minimum Observed: 5028.07 ft AMSL
Range: 2.15 ft

W-314			
Date of Measurement	Measuring Pt Elevation [ft AMSL]	Water Level [ft bmp]	GW Elevation [ft AMSL]
11/30/2015	5051.10	8.39	5042.71
3/8/2016	5051.10	7.32	5043.78
5/5/2016	5051.10	6.97	5044.13
8/24/2016	5051.10	8.79	5042.31
9/21/2016	5051.10	9.23	5041.87
2/20/2017	5051.10	8.69	5042.41
4/11/2017	5051.10	8.52	5042.58
4/24/2017	5051.10	8.38	5042.72
5/18/2017	5051.10	8.75	5042.35
5/24/2017	5051.10	8.92	5042.18
6/29/2017	5051.10	9.84	5041.26
7/26/2017	5051.10	10.36	5040.74
9/5/2017	5051.10	10.37	5040.73
12/7/2017	5051.10	10.86	5040.24
2/13/2018	5051.10	10.43	5040.67
5/18/2018	5051.10	10.84	5040.26
10/22/2018	5051.10	11.43	5039.67
2/15/2019	5051.10	10.15	5040.95
4/15/2019	5051.10	9.47	5041.63
7/31/2019	5051.10	11.49	5039.61
10/21/2019	5051.10	12.25	5038.85
4/14/2020	5051.10	9.76	5041.34
10/19/2020	5051.10	12.97	5038.13
4/12/2021	5051.10	11.04	5040.06
10/20/2021	5051.10	13	5038.1

Maximum Observed: 5044.13 ft AMSL
Minimum Observed: 5038.10 ft AMSL
Range: 6.03 ft

Appendix G

Well Completion Report for FAP Extraction Wells

wood.

Well Completion Report Fly Ash Pond Extraction Wells

CCR Rule Compliance
APS Cholla Power Plant
Navajo County, Arizona
Project # 14-2018-2040

Registered Professional Engineer (Civil)
CERTIFICATE NO.
54953
REBECCA A.
WEAVER
12/10/2021
DATE SIGNED
ARIZONA U.S.A.

Prepared for:

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

December 10, 2021

Well Completion Report Fly Ash Pond Extraction Wells

CCR Rule Compliance
APS Cholla Power Plant
Navajo County, Arizona
Project # 14-2018-2040

Prepared for:

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

Prepared by:

Wood Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100

December 10, 2021

Table of Contents

List of Figures

List of Tables

List of Appendices

List of Acronyms and Abbreviations

ACM	Assessment of Corrective Measures
amsl	above mean sea level
APS	Arizona Public Service Company
b	aquifer thickness
bgs	below ground surface
CCR	coal combustion residuals
Cholla	Cholla Power Plant
CSM	Conceptual Site Model
FAP	Fly Ash Pond
ft	foot, feet
ft/d	feet per day
ft2/d	square feet per day
gpd	gallons per day
gpm	gallons per minute
GWPS(s)	Groundwater Protection Standard(s)
k	hydraulic conductivity
PVC	polyvinyl chloride
SAP	Sampling and Analysis Plan
Sch	Schedule
SSI(s)	statistically significant increase(s)
Swl	static water level
T	transmissivity
Wood	Wood Environment & Infrastructure Solutions, Inc.

1.0 Introduction

Wood Environment & Infrastructure Solutions, Inc. (Wood) prepared this Well Completion Report to document the installation, development, and aquifer testing of four new extraction wells and the drilling of three investigative borings at the Cholla Power Plant (Cholla or the Site) in Navajo County, Arizona. The work described herein was performed pursuant to requirements specified in 40 Code of Federal Regulations Part 257 (herein referred to as the Coal Combustion Residuals [CCR] Rule; Federal Register, 2018 and 2020 Amendments including A Holistic Approach to Closure, Parts A and B). The new extraction wells, designated EW-01, EW-02, EW-03, and EW-04, were installed downgradient of the Fly Ash Pond (FAP) as part of a corrective measures (CM) pre-design study to evaluate potential remedies to address groundwater impacts resulting from the FAP and potentially utilized to mitigate groundwater impacts. The three investigative borings, designated INV-01, INV-02, and INV-03, were drilled downgradient of the FAP to investigate the Moqui member of the Moenkopi Formation (Moqui).

Section 2.0 documents existing hydrogeologic units at the site and the basis for installing extraction wells and advancing investigative borings. Section 3.0 documents the drilling, installation, and development of the extraction wells and drilling of the investigative borings. Section 4.0 documents and describes the analysis of the aquifer tests performed at the extraction wells. Section 5.0 documents groundwater sampling performed at the extraction wells. Section 6.0 presents a summary and recommendations, and Section 7.0 provides report references.

For additional background information on descriptions of the Site and CCR units, surface water hydrology and site geology please reference Montgomery & Associates (2011), Montgomery & Associates (2017), and Wood Environment & Infrastructure, Inc. (2021).

2.0 Purpose

The following sections describe the purpose of the field activities performed at the FAP as they related to the CCR Rule.

2.2 Basis for Extraction Well Installation

The groundwater monitoring and corrective action process defined in the CCR Rule includes a phased approach to groundwater monitoring at the Site. The initial phase is detection monitoring, which focuses on a set of constituents (listed in Appendix III of the CCR Rule) that are relatively mobile components of CCR and therefore represent indicators of possible impacts from CCR in groundwater. If statistically significant increases (SSIs) of any of the Appendix III constituents relative to background conditions are detected in the downgradient waste boundary wells and cannot be demonstrated to be associated with a source other than the CCR unit, then groundwater monitoring moves into assessment monitoring.

In 2018, APS completed a statistical analysis of Appendix III constituent data collected during the detection monitoring phase at the FAP from November 2015 to September 2017. The analysis declared an SSI over background for boron, fluoride, calcium, chloride and pH at the FAP (Montgomery & Associates, 2018). Accordingly, the FAP was placed into the assessment monitoring program pursuant to the CCR Rule.

Assessment monitoring focuses on the constituents listed in Appendix IV of the CCR Rule. The Appendix IV constituents are generally less mobile and occur at lower concentrations in groundwater than the Appendix III constituents, although they also have health and/or environmental risk-based standards. Concentrations of Appendix IV constituents measured in groundwater samples collected from CCR compliance wells are compared to Groundwater Protection Standards (GWPSs), which are the higher of either the federal Safe Drinking Water Act Maximum Contaminant Level, an alternative risk-based GWPS identified in the CCR Rule, or a statistically-driven background threshold value for each constituent. A statistical analysis of Appendix IV constituent data collected from FAP compliance wells indicated GWPS exceedances for arsenic, cobalt, fluoride, lithium, and molybdenum at statistically significant levels (Wood, 2018).

In response to the GWPS exceedances and pursuant to CCR Rule requirements, APS performed a hydrogeologic investigation to characterize the nature and extent of groundwater impacts resulting from the FAP (Wood, 2020). Additionally, APS completed an Assessment of Corrective Measures (ACM) to evaluate potential remedies to address the groundwater impacts (Wood, 2019). The ACM screened several applicable technologies to evaluate the benefits, constraints, risks, and relative time to benefit from implementation of a given technology. As indicated in the ACM, an extraction well network was identified as a viable remedial technology (Wood, 2019). The new wells, EW-01, EW-02, EW-03, and EW-04, were installed to evaluate the effectiveness of an extraction well network as a potential remedial technology, as well as to provide an interim corrective measure to limit groundwater impacts while the remedy alternatives for the FAP are being evaluated and selected.

2.3 Basis for Investigative Borings

As indicated above, the top of the Moqui is locally saturated near the FAP dam. To investigate the degree to which the Moqui is saturated, two investigative borings (INV-02 and INV-03) were drilled into the Moqui near the right and left abutments of the FAP dam. Previous site investigations suggest that monitoring well W-126 may be partially completed within the Moqui (Wood, 2021). To evaluate this possibility, one investigative boring (INV-01) was drilled into the Moqui approximately 240 ft southeast of W-126. The results of the investigative borings are discussed below.

3.0 Hydrogeologic Setting

For the purposes of this well installation Technical Memorandum, the relevant hydrostratigraphic unit is the uppermost aquifer at the FAP, which is the alluvial aquifer. The CCR Rule requires that the uppermost aquifer underlying each CCR unit be monitored to evaluate potential impacts from the unit.

At the FAP, the uppermost aquifer is within an alluvial drainage that flows downgradient to the Lower Colorado Alluvium aquifer. The FAP is constructed primarily on the relatively impermeable Moqui member of the Moenkopi Formation, a bedrock unit consisting predominately of mudstone with abundant gypsum; however, alluvial sediments which can include weathered Moqui underlie the FAP. The FAP dam has a clay core that extends through the alluvium to bedrock where the alluvium was less than 20 feet (ft) thick at the time of dam construction. In the middle where the alluvium was greater than 20 ft thick, a cutoff wall was constructed that generally extended to bedrock. Groundwater at the toe of the FAP dam flows west-southwest primarily through shallow alluvial sediments (which are fairly fine grained) and then merges with the Little Colorado River Alluvium where the predominant direction of groundwater flow is to the west. Limited localized saturation also occurs in the uppermost portion of the Moenkopi Moqui near the FAP dam.

4.0 Drilling and Well Installation

This section summarizes the drilling and well installation activities and includes a well location map (Figure 1), an investigative boring map (Figure 2), well construction table (Table 1), lithologic logs and well construction diagrams (Appendix A), and a photograph log (Appendix B).

4.1 Extraction Well Siting and Pre-mobilization Activities

The extraction wells were sited along the southwestern toe of the FAP dam in the vicinity of the Geronimo Seepage Intercept system. The wells were sited at locations where cone penetrometer tests indicated the presence of elevated pore pressures or artesian conditions and potentially thicker zones of gravelly alluvium (Wood, 2021).

Prior to site mobilization, Wood updated the existing Health and Safety Plan for the Site and ensured all Wood field personnel and subcontractors received the APS Fossil Generation Contractor Safety training.

4.2 Drilling

Prior to drilling, an underground utility clearance was performed near each well and boring location, and each location was hydro-excavated to a depth of approximately 6 ft below ground surface (bgs). It is assumed that alluvium was present at all borings except INV-02 within the hydro-evacuated interval based on the surface geology and visual inspection of the portion of the hole what was visible after hydro-evacuation Wood contracted with a licensed Arizona driller, Cascade Drilling, LP, to drill and install the extraction wells and investigative borings using a truck-mounted sonic drill rig powered with a diesel engine.

Drilling occurred from December 9th to 15th, 2020. The extraction well boreholes were drilled to a 10-inch (in) diameter and the investigative borings were drilled to an 8-in. diameter. The investigative borings were abandoned after drilling using bentonite grout. Drilling was supervised by a Wood field geologist, and continuous formation samples were logged at 2.5-ft depth intervals using the Unified Soil Classification System. Lithologies encountered at each boring include the Little Colorado River alluvium and the Moqui. Descriptions of the formation samples are recorded on the lithologic logs included in Appendix A, and photographs of the formation samples are included as Appendix B. The well locations and investigative boring locations are depicted on Figures 1 and 2, respectively.

Notable observations from drilling are summarized below:

- EW-01: Alluvium was encountered from 6 to 50 ft bgs, and the Moqui was encountered from 50 to 55 ft bgs. The alluvium was predominantly silt with either sand or clay, except from approximately 45 ft bgs to 50 ft bgs where the grain size increased to be a silty sand with gravel prior to the contact with the Moqui. Groundwater was encountered in the alluvium at 35 ft bgs, and the Moqui was observed to be dry.
- EW-02: Alluvium was encountered from 6 to 49 ft bgs, and the Moqui was encountered from 49 to 55 ft bgs. The alluvium ranged from sandy silt to silty sandy, except from approximately 37 ft bgs to 49 ft bgs where increased gravel content (approximately 20% to 35%) was encountered prior to the contact with the Moqui. Groundwater was encountered in the alluvium at 15 ft bgs, and the Moqui was observed to be dry.
- EW-03: Alluvium was encountered from 6 to 50 ft bgs, and the Moqui was encountered from 50 to 55 ft bgs. The alluvium was predominantly silty sand, except from approximately 42.5 ft bgs to 50 ft bgs where increased gravel content (approximately 25% to 55%) was encountered prior to the contact with the Moqui. Groundwater was encountered in the alluvium at 15 ft bgs, and the Moqui was observed to be dry. However, a section of very stiff silt and clay from 32 to 35 ft bgs was observed which appeared to be a zone of decreased saturation.
- EW-04: Alluvium was encountered from 10 to 19 ft bgs, and predominantly consisted of silty sand (10 to 17 ft bgs). No cores were retrieved from 6 to 10 ft bgs because the soil was over saturated and could not be retrieved intact from the drill barrel. The Moqui was encountered from 19 to 30 ft bgs (the borehole was advanced 11 ft into the Moqui to investigate the potential for saturation in the Moqui). A

2-ft thick section of clayey gravel was identified overlaying the Moqui from 17 to 19 ft bgs. Groundwater was encountered in the alluvium at 3 ft bgs, and the Moqui was observed to be dry.

- INV-01: Alluvium encountered from 6.5 to 22 ft bgs, and the Moqui was encountered from 22 to 50 ft bgs. The alluvium was predominantly silty sand. Groundwater was encountered in the alluvium at 3 ft bgs. The Moqui was predominantly dry at this location. However, moisture was noted within thin beds of claystone interbedded in the Moqui. A 5-ft thick section of silt with sand overlying the Moqui from 17 to 22 ft bgs was identified as a zone of decreased saturation.
- INV-02: the Moqui was encountered from 5 to 50 ft bgs. Groundwater was not observed in the boring, but moisture was noted within gypsum beds interbedded in the Moqui.
- INV-03: Alluvium primarily consisting of sandy silt was encountered from 5 to 8.5 ft bgs, and the Moqui was encountered from 9 to 50 ft bgs. Groundwater was not observed in the boring, but moisture was noted within the alluvium and gypsum beds interbedded in the Moqui.

4.3 Well Installation

Extraction well installation occurred from December 10 to 13, 2020. Construction details for each well are presented in Table 1 and included on the lithologic logs (Appendix A). The extraction wells are each constructed of a 6 in nominal diameter Schedule (SCH) 80 polyvinyl chloride (PVC) well casing and a 6 in nominal diameter SCH 80 PVC screen with 0.020-in. slots. Installation depths for the extraction well screens were based on observations made during drilling. A 5 ft SCH 80 PVC sump was installed beneath the screened interval at each well. Filter pack material consists of 12-20 silica sand, and a transition seal of 20-40 silica sand was installed above the filter pack. A well seal consisting of bentonite was installed above the transition seal, followed by a surface seal consisting of cement-bentonite grout. Surface completions consist of 3-ft above-grade steel vaults placed within a concrete pad.

4.4 Well Development

The extraction wells were developed from December 14 to 18, 2020. Development techniques consisted of:

- Surging and bailing the well until the amount of sediment produced by each cycle was reduced to trace amounts; and
- Development pumping using a 12-volt Mega-Monsoon® pump.

Details of each well's development are summarized in the Table 2. As indicated, turbidity remained relatively high near the end of development pumping (i.e., greater than 5 nephelometric turbidity units), which is likely due to large amounts of fine-grained sediments in the aquifer.

4.5 Management of Investigation-Derived Waste

Investigation-derived waste consisted of soil cuttings produced during drilling and groundwater removed during well development. The soil cuttings were spread on the ground surface near the well site. Groundwater pumped during development was directed to 55-gallon drums and then transported to the Plant via a water truck for discharge into the Sedimentation Tank, which is then reused in Plant operations.

4.6 Well Survey

The location, surface elevation, and measuring point elevation of each extraction well and the location and surface elevation of each investigative boring was surveyed by Martin Land Surveys, Inc., Martin Martin registered Arizona land surveyor #18548 on December 30, 2020. Table 1 summarizes the survey data for the new extraction wells.

5.0 Extraction Well Aquifer Tests

This section summarizes the performance and analysis of aquifer tests performed at the FAP extraction wells to evaluate local aquifer properties (e.g., transmissivity, hydraulic conductivity, storativity), specific capacities for each extraction well, and the zone of influence from pumping each extraction well.

The aquifer tests consisted of one step-rate test and one 24-hour constant rate test at each extraction well. Water levels were recorded at the extraction wells and observation points using pressure transducers and were periodically checked with a water-level meter where possible; the small diameter of the piezometers and Geronimo A and B sounding tubes prevented measurements with a water-level meter. Observation points included the following wells and piezometers, which are depicted on Figure 3:

- F-91, F-92, F-111, F-112, Geronimo A, Geronimo B, W-123, W-126, MW-50A, and MW-66A.

Wood field personnel noted a blockage in piezometer F-92 at approximately 20 ft bgs which prevented the deployment of a pressure transducer below this depth. Construction details for the observation well points used for the aquifer tests are included in Table 1.

5.1 Aquifer Test Equipment and Extracted Groundwater Management

A 3-in nominal diameter test pump (Grundfos model SQE 10-330) was used to conduct the aquifer tests. Pumping rates were measured using a Fill-Rite® TT10AN in-line digital flow meter and verified by observing the time required to fill a container of known volume. Water-level data were collected using In-Situ Level TROLL® pressure transducers with vented cables and checked with a water-level meter where possible. Groundwater pumped during the aquifer tests was containerized at the test well location before conveyance to the Plant for reuse in operations.

5.2 Step and Constant Rate Tests

A step rate test with four steps, followed by a constant rate test was performed on each extraction well. The step rate test was used to calculate the specific capacity of each well at the pumping rate in each step and to select a pumping rate for the constant rate test. A constant rate test was conducted on all of the wells for 24 hours except for EW-04, described below. Table 3 includes a summary of the aquifer testing timing and setup criteria for this project.

5.2.1 EW-01

Step-rate testing of EW-01 was performed on January 6, 2021. Figure 4 depicts the step-rate test drawdown data, and Table 3 summarizes the step-rate test results. The flow meter did not function during this test and the flow rate was calculated manually. It took approximately 14 minutes before the flow rate was adjusted to be 1.5 gpm for the second step.

Constant-rate testing of EW-01 was performed over January 6 to 7, 2021. A pumping rate of 1.5 gpm was selected for the constant-rate test as it was the rate from the step-rate test data that appeared to have stabilized drawdown.

5.2.2 EW-02

Step-rate testing of EW-02 was performed on January 7, 2021. Figure 5 depicts the step-rate test drawdown data, and Table 4 summarizes the step-rate test results.

Constant-rate testing of EW-02 was performed over January 7 to 8, 2021. A pumping rate of 6.2 gpm was selected for the constant-rate test based on the step-rate test which did not stabilize at 7.2 gpm. There were some uncertainties with the measurement of the flow rate with the flow meter and the selected rate of 6.2 gpm was determined from a review of the bucket test flow rates recorded for each step and the maximum rate estimated to have stabilized drawdown over 24 hours.

5.2.3 EW-03

Step-rate testing of EW-03 was performed on January 9, 2021. Only two steps were completed for this test because the pumping rate of 9.0 gpm selected for the third step caused excessive drawdown, which ended the step-rate test prematurely. Figure 6 depicts the step-rate test drawdown data, and Table 4 summarizes the step-rate test results.

Constant-rate testing of EW-03 was performed over January 9 to 10, 2021. A pumping rate of 5.0 gpm was selected for the constant-rate test as the second step at 7 gpm did not have stabilized drawdown and the final step had rapid drawdown resulting in it being terminated early.

5.2.4 EW-04

Step-rate testing of EW-04 was performed on January 4, 2021. Figure 7 depicts the step-rate test drawdown data, and Table 3 summarizes the step-rate test results. The fourth step at 2.5 gpm did not achieve stabilized drawdown.

Constant-rate testing of EW-04 was performed over January 4 to 5, 2021. A pumping rate of 2.3 gpm was initially selected for the constant-rate test, and the test began at 6:45 a.m. on January 9. The test continued at 2.3 gpm for approximately 12.8 hours, at which point drawdown in the pumping well was only 0.88 ft. A decision was made to increase the flow rate to evaluate maximum sustainable pumping rates for the well. Accordingly, the flow rate was increased to 3.3 gpm, and after pumping the well at 3.3 gpm for 1 hour, the pumping rate was increased to 4.3 gpm. The test continued at 4.3 gpm for an additional 1.5 hours, at which point the flow rate was decreased to 3.9 gpm. The test continued for an additional 8.3 hours at 3.9 gpm before stopping the test pump. Figure 11 shows the constant rate test and recovery data. An analysis of the EW-04 constant-rate test is presented in Section 3.6.

5.2.5 Specific Capacity Data

Table 4 summarizes specific capacity data obtained from the step-rate tests. Specific capacity represents drawdown that is expected to occur in a pumping well for a given pumping rate. For instance, a specific capacity of 1 gpm/ft indicates a pumping rate of 1 gpm will produce 1 ft of drawdown in a pumping well.

As noted in Table 4, specific capacities were not calculated for pumping rates in which drawdown in the pumping well did not stabilize. Specific capacities for the extraction wells range from 0.2 to 5.3 gpm/ft.

5.2.6 Zone of Influence Evaluation

Figures 8 through 10 depict observation point water-level data collected throughout the aquifer tests. Figure 8 depicts water levels at observation points which were influenced by the aquifer tests, and Figure 9 depicts water levels at the new extraction wells during the aquifer tests. Figure 10 depicts water levels at observation points which were not influenced by the aquifer tests. Notable observations from the water level data are summarized as follows:

- EW-01 pumping induced observable drawdown at F-92, EW-02, and EW-03. The farthest observation point to be influenced by EW-01 pumping is EW-03, which is located approximately 280 ft to the southeast.
- EW-02 pumping induced observable drawdown at F-91, F-92, EW-01, EW-03, MW-66A, and Geronimo B. The farthest observation point to be influenced by EW-02 pumping is MW-66A, which is located approximately 560 ft to the west. Declining water levels at Geronimo A during the EW-02 tests suggest this well may also have been influenced by EW-02 pumping, though a definitive connection is not clear from the Geronimo A water level data.
- EW-03 pumping induced observable drawdown at F-91, EW-01, EW-02, MW-66A, Geronimo A, and Geronimo B. The farthest observation point to be influenced by EW-03 pumping is MW-66A, which is located approximately 600 ft to the west. It is likely drawdown was also induced at F-92, but the water level in this piezometer was below the depth of the pressure transducer during the EW-03 aquifer tests [the pressure transducer was set at 20 ft bgs in F-92 due to a blockage in the piezometer at this depth (Section 3.0)].
- EW-04 pumping induced observable drawdown at W-123, which is located approximately 20 ft southeast of EW-04. Observable drawdown did not occur at any other observation points during the EW-04 tests.
- The aquifer tests did not induce drawdown at several alluvial observation points including M-50A, W-126, and F-111. While the lack of drawdown at M-50A and W-126 suggests the zone of influence from pumping did not extend to these wells, the lack of drawdown at F-111 [which is located between Geronimo A and B (two observation points where drawdown was induced)] suggests this piezometer is not in communication with the alluvial aquifer in which EW-02, EW-03, Geronimo A, and Geronimo B are screened. The lack of communication between F-111 and the alluvial aquifer may be caused by a damaged or clogged screen at F-111.
- The aquifer tests did not induce drawdown at W-124, which is screened within the Wupatki member of the Moenkopi Formation, or F-112, which is screened within the Moqui. However, drawdown was induced at F-91 by the EW-02 and EW-03 tests. This piezometer is screened across the contact between the Moqui and the Wupatki. The drawdown at this piezometer suggests there is a hydraulic connection between the alluvial aquifer and the Moqui/Wupatki at F-91, which is likely caused by a damaged annular well seal.

5.3 Aquifer Test Analysis

The aquifer test data was analyzed to assess the radius of influence for each pumping well and estimate local aquifer properties using analytical solutions included in the AQTESOLV (Duffield, 1996) software package. Observation point water-level data was recorded during the aquifer tests and depicted as Figures 8 through 10 and this data was used to evaluate aquifer properties and the zone of influence for each pumping well. The pumping well data for each pumping well was not used in the analysis because the typically the pumping data is impacted by the influence of the pump in the well, as was the case for the wells tested in this report.

Where possible, the solution used to analyze the aquifer test data is based on the assumption of semi-confined conditions for the alluvial aquifer downgradient of the FAP. This assumption is based on the extraction well lithologic logs and the results of cone penetrometer tests performed at the FAP (Wood, 2021), which indicate alternating lenses of fine and coarse-grained alluvial sediments. The coarser-grained sediments are likely confined by the finer-grained sediments, and recharge and discharge likely occurs through the finer-grained sediments. Accordingly, the Hantush-Jacob analytical solution for leaky confined aquifers (1955) was used to analyze the observation point water level data. This solution generally provided the best fit to the observation point water level data. However, in some cases, the Cooper-Jacob method for confined aquifers (1946) and the Theis recovery solution for confined aquifers (1935) provided a better fit to the observation point data. These exceptions are discussed below.

Results of the analyses using AQTESOLV are summarized in Table 5 and described in the following sections. The AQTESOLV analyses are included as Appendix C.

Hydraulic conductivity was estimated from the aquifer test analyses using the following equation:

$$T=kb$$

(T=transmissivity [ft^2/day], k=hydraulic conductivity [ft/day], and b=aquifer thickness [ft])

The aquifer thickness at each well location equates to the vertical distance from the swl to the top of the Moqui. At EW-01, EW-02, and EW-03, the aquifer thickness is estimated as 27 ft, while at EW-04, the aquifer thickness is estimated as 19 ft.

5.3.1 EW-01 Constant-Rate Test Analysis Results

For the EW-01 constant-rate test, drawdown and recovery data collected from F-92 and EW-02 were analyzed using the Hantush-Jacob solution. The analyses produced transmissivities ranging from 63 ft^2/d and 73 ft^2/d and storativity values ranging from 0.0004 and 0.0022 (Table 5 and Appendix C). An assumed aquifer thickness of 27 ft produces hydraulic conductivity estimates of 2 and 3 ft/d. EW-03 was not included in the analysis because even though there was a slight impact to it, this impact was not significant enough to allow for accurate curve matching.

5.3.2 EW-02 Constant-Rate Test Analysis Results

For the EW-02 constant-rate test, drawdown and recovery data collected from MW-66A, EW-01, and EW-03 were analyzed using the Hantush-Jacob solution. The analyses produced transmissivities ranging from 102 ft^2/d and 141 ft^2/d and storativity values ranging from 0.0004 and 0.0023 (Table 5 and Appendix C). An assumed aquifer thickness of 27 ft produces hydraulic conductivity estimates of 4 and 5 ft/d.

5.3.3 EW-03 Constant-Rate Test Analysis Results

For the EW-03 constant-rate test, drawdown data collected from EW-01, Geronimo B, and MW-66A were analyzed using the Hantush-Jacob solution. Recovery data collected from MW-66A were analyzed using the Hantush-Jacob solution, and recovery data collected from EW-01 and Geronimo B were analyzed using the Theis recovery method, which provided a better fit to the recovery data sets. The analyses produced transmissivities ranging from 85 ft^2/d and 115 ft^2/d and storativity values ranging from 0.0004 and 0.017 (Table 5 and Appendix C). An assumed aquifer thickness of 27 ft produces hydraulic conductivity estimates of 3 and 4 ft/d.

5.3.4 EW-04 Constant-Rate Test Analysis Results

For the EW-04 constant-rate test, the late-time drawdown data collected from W-123 (when EW-04 was pumped at 3.9 gpm) were analyzed using the Cooper-Jacob solution, and recovery data collected from W-123 were analyzed using the Hantush-Jacob solution. The analyses produced transmissivity values of 139 ft^2/d and 149 ft^2/d and storativity values of 0.01 and 0.15 (Table 5 and Appendix C). An assumed aquifer thickness of 19 ft produces hydraulic conductivity estimates of 7 and 8 ft/d.

6.0 Groundwater Sampling

Groundwater samples were collected from EW-02 and EW-04 at the end of each well's constant-rate aquifer test. The samples were collected in general accordance with the sampling and analysis plan developed for the site (Montgomery & Associates, 2015). The samples were submitted to Eurofins TestAmerica Laboratories, Inc., an Arizona Department of Health Services-licensed laboratory (AZ0728), for analysis of arsenic, cobalt, fluoride, lithium, molybdenum, iron, and water quality ions.

The laboratory analytical report is included as Appendix D, and Table 6 presents the analytical results. The results are comparable to water quality data that has historically been collected at monitoring well W-123.

7.0 Summary And Recommendations

7.1 Extraction Well Performance

Aquifer tests at the extraction wells induced drawdown at several observation points downgradient of the FAP. Extraction wells EW-01, EW-02, and EW-03 are hydraulically connected to each other and to other alluvial monitoring points. Extraction wells EW-04 and W-123 are hydraulically connected to each other but do not appear to be connected to the other extraction wells or alluvial monitoring points. These wells are completed at shallower depths than the other extraction wells, and it is likely that they are screened within sediments that have limited hydraulic connection with the sediments in which EW-01, EW-02, and EW-03 are screened.

Wood recommends equipping the new extraction wells at the FAP with submersible pumps and incorporating the wells into the existing Geronimo Seepage Intercept System to capture and extract impacted groundwater before it migrates downgradient. Based on the aquifer test data, recommended sustainable pumping rates for each well are as follows:

- EW-01: 1.5 gpm
- EW-02: 5 gpm
- EW-03: 5 gpm
- EW-04: 2.5 gpm

Wood also recommends installing transducers in alluvial wells and piezometers downgradient of the FAP to evaluate the zone of influence created by prolonged operation of the extraction wells. Demonstrating the zone of influence for each extraction well overlaps with the adjacent extraction wells' zone of influence in the alluvial aquifer is considered an essential component of the final remedy for the FAP.

7.2 Saturation in the Moqui

Investigative borings INV-02 and INV-03 identified slight amounts of moisture within gypsum seams in the Moqui at these locations. However, the observed moisture is not likely indicative of saturated conditions in the Moqui along the edges of the FAP dam. This is evidenced by the observation of the Moqui being dry at INV-01, EW-01, EW-02, EW-03, and EW-04. Based on these observations, seepage from the FAP appears to flow primarily through the alluvium.

7.3 Replacement Wells and Piezometers

The EW-04 and INV-01 borings encountered the Moqui at depths of 19 and 22 ft bgs, respectively. Monitoring well W-123, which is located approximately 20 ft west of EW-04, is screened from 14 to 29 ft bgs. Monitoring well W-126, which is located approximately 240 ft northwest INV-01, is screened from 15 to 45 ft bgs. Therefore, it is likely that W-123 and W-126 are partially completed in the Moqui. These wells should be abandoned and replaced with new monitoring wells that are screened within the alluvium.

As previously indicated, the extraction well aquifer tests induced drawdown at Moqui/Wupatki piezometer F-91 but did not induce drawdown at alluvial piezometer F-111. Wood recommends abandoning and replacing F-91 to prevent the migration of alluvial groundwater into the underlying Moenkopi Formation, and abandoning and replacing F-111 with a new alluvial piezometer to monitor the zone of influence of the extraction wells.

7.4 Updated Aquifer Property Data

Where applicable, the hydraulic conductivity, transmissivity, and storativity values derived from the extraction well aquifer tests (Table 5) should be incorporated into future groundwater flow rate calculations and the numerical groundwater model for the FAP.

8.0 References

Cooper, H.H. and C.E. Jacob, 1946. *A generalized graphical method for evaluating formation constants and summarizing well field history*, Am. Geophys. Union Trans., vol. 27, pp. 526-534.Duffield, G.M., 1996. *AQTESOLV* for Windows by HydroSOLVE Inc., Reston, VA.

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; A Holistic Approach to Closure Part A: Deadline to Initiate Closure effective September 28, 2020*.

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments effective December 14, 2020*.

Hantush, M.S. and C.E. Jacob, 1955. *Non-steady Green's functions for an infinite strip of leaky aquifer*, Trans. Am. Geophys. Union, vol. 36, no. 1, pp. 101-112.

Montgomery & Associates, 2011. *Arizona Public Service Cholla Power Plant Point of Compliance Evaluation*. Prepared for APS. January 26, 2011.

Montgomery & Associates, 2015. *Groundwater Sampling and Analysis Program*, Cholla Power Plant, Joseph City, Arizona. #CH_GW_SAP_021_11-30-15. November 30, 2015.

Montgomery & Associates, 2017. *Cholla Power Plant Coal Combustion Residuals Program – Design, Installation, and Evaluation of Completeness of Groundwater Monitoring Networks*. Navajo County, Arizona. Document #CH_GW_SystemCert_020_20170919. September 19, 2017.

Montgomery & Associates, 2018. *Cholla Power Plant Coal Combustion Residuals Program – Statistical Analysis of Baseline Groundwater Monitoring Data, November 2015 through September 2017*. Prepared for Arizona Public Service. January 12, 2018. Revised May 22, 2018.

Theis, C.V., 1935. *The relation between the lowering of the piezometric surface and the rate and duration of discharge of a well using groundwater storage*, Am. Geophys. Union Trans., vol. 16, pp. 519-524.

Wood, 2018. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Fly Ash Pond*. Arizona Public Service Cholla Power Plant - Navajo County, Arizona. Technical Memorandum dated October 15, 2018.

Wood, 2019. *Assessment of Corrective Measures for the Fly Ash Pond and the Bottom Ash Pond*. Coal Combustion Residuals Rule and Aquifer Protection Permit Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated June 14, 2019.

Wood, 2020. *Hydrogeologic Investigation of the Fly Ash Pond and Bottom Ash Pond*. Coal Combustion Residuals Rule Groundwater Monitoring System Compliance. Arizona Public Service Company Cholla Power Plant, Navajo County, Arizona. Report dated January 31, 2020.

Wood, 2021. *Annual Groundwater Monitoring and Corrective Action Report for 2020*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of APS. Report dated January 31, 2021.

Tables

Table 1
Well Construction Summary

Well	Date Installed	Borehole Depth (ft bgs)	Well Depth (ft bgs)	Northing	Easting	Top of Casing Elevation (ft amsl)	Ground Surface Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Top Screen Elevation (ft amsl)	Bottom Screen Elevation (ft amsl)	Bottom Borehole Elevation (ft amsl)
EW-01	12/10/2020	55	55	1429449.21	669561.94	5,037.36	5,035.09	20	50	30	5,015.09	4,985.09	4,980.09
EW-02	12/11/2020	55	53	1429318.29	669705.64	5,036.64	5,034.01	18	48	30	5,016.01	4,986.01	4,979.01
EW-03	12/12/2020	55	52	1429260.98	669767.09	5,037.71	5,035.20	17	47	30	5,018.20	4,988.20	4,980.20
EW-04	12/10/2020	30	24	1429150.44	669906.40	5,039.93	5,037.18	9	19	10	5,028.18	5,018.18	5,007.18
F-91			77			5,036.58	5,034.58	57	77	20	4,977.58	4,957.58	5,034.58
F-92			56	1429350.87	669626.79	5,034.56	5,031.58	41	56	15	4,990.58	4,975.58	5,031.58
MW-66A	11/12/2018	60	49	1429134.06	669178.50	5,033.35	5,032.46	24	49	25	5,008.46	4,983.46	4,972.46
W-123	11/4/1983	40	32	1429139.89	669925.02	5039.84	5,038.14	14	29	15	5,024.14	5,009.14	4,998.14
Geronimo A		40	40	1429199.41	669836.57	5,036.77	*5,034.77*	20	40	20	5,014.77	4,994.77	4,994.77
Geronimo B		40	40	1429221.23	669814.37	5,036.40	*5,034.40*	20	40	20	5,014.40	4,994.40	4,994.40
W-124	2/14/1992	96	96			5,037.53	*5,035.53*	76	96	20	4,959.53	4,939.53	4,939.53
M-50A	9/18/2015	32	29	1429799.42	669243.76	5,038.18	5,035.65	9	29	20	5,026.65	5,006.65	5,003.65
W-126	12/1/1995	50	45	1428723.33	669678.48	5,034.75	*5,032.75*	15	45	30	5,017.75	4,987.75	4,982.75
F-111	4/5/1979	51	46			5,036.62	5,035.22	26	46	20	5,009.22	4,989.22	4,984.22
F-112	4/6/1979	74	68			5,068.99	5,066.39	43	68	25	5,023.89	4,998.89	4,992.89

Notes:
Horizontal Coordinate System: Arizona State Plane East (ft),North American Datum 1983
Vertical datum is North American Vertical Datum 1988
Martin Land Surveyors, 2020 data is shown in green
Existing observation well data is highlighted in blue
Italicized elevations were estimated assuming a 2 foot stickup

Abbreviations:
amsl - above mean sea level
bgs - below ground surface
FAP - Fly Ash Pond
ft - feet

Table 2
Well Development Summary

Well ID	Development Date(s)	Development Methods	Total Time Spent on Development (hours)	Final Turbidity Measurement
EW-01	12/14/2020, 12/15/2020	Surge, bail, pump	4	33.4 NTUs
EW-02	12/15/2020, 12/16/2020	Surge, bail, pump	7	57.1 NTUs
EW-03	12/16/2020, 12/17/2020	Surge, bail, pump	9	Not Measured
EW-04	12/17/2020, 12/18/2020	Surge, bail, pump	16	28.3 NTUs

Abbreviations:
NTU - Nephelometric turbidity unit

Table 3
Aquifer Test Summary

Well ID	Test Type	Date	Pump Intake depth (ft bgs)	SWL prior to testing (ft bgs)
EW-01	Step	1/6/2021	49.5	23.39
	Constant	1/6/2021-1/7/2021		23.44
EW-02	Step	1/7/2021	45.7	22.33
	Constant	1/7/2021-1/8/2021		23.16
EW-03	Step	1/9/2021	46.0	25.48
	Constant	1/9/2021-1/10/2021		25.76
EW-04	Step	1/4/2021	20.0	0.39
	Constant	1/4/2021-1/5/2021		0.51

Abbreviations:
ft bgs- feet below ground surface

Table 4
Step-Rate Test Summary

Well ID	Pumping Step	Pumping Rate (gpm)	Approximate Step Duration (min)	Drawdown (ft)	Specific Capacity (gpm/ft)	Remarks
EW-01	1	1.0	60	2.5	0.4	Drawdown relatively stable at end of step
	2	1.5	60	5.3	0.3	Drawdown relatively stable at end of step
	3	2.0	60	9.4	0.2	Drawdown relatively stable at end of step
	4*	2.5	60	13.5	---	Drawdown ~0.02 ft per minute at end of step
EW-02	1	2.2	60	1.3	1.7	Drawdown relatively stable at end of step
	2	3.2	60	2.0	1.6	Drawdown relatively stable at end of step
	3	5.4	60	3.9	1.4	Drawdown relatively stable at end of step
	4*	7.2	180	10.8	---	Drawdown ~0.01 ft per minute at end of step
EW-03	1	5.0	60	3.5	1.4	Drawdown relatively stable at end of step
	2*	7.0	60	9.0	---	Drawdown ~0.02 ft per minute at end of step
	3*	9.0	9	18.4	---	Excessive drawdown, stopped pump after 9 minutes
EW-04	1	0.5	60	0.1	5.3	Drawdown relatively stable at end of step
	2	1.0	60	0.2	5.0	Drawdown relatively stable at end of step
	3	2.0	60	0.7	2.9	Drawdown relatively stable at end of step
	4*	2.5	60	1.5	---	Drawdown ~0.02 ft per minute at end of step

Notes:
*Specific capacity not calculated for step because drawdown did not stabilize during pumping

Abbreviations:
ft - foot/feet
gpm - gallons per minute
min - minutes

Table 5
Aquifer Test Analysis Summary

Well ID	Analytical Solution	Observation Point	Transmissivity		Storativity	Saturated Thickness (ft)	Hydraulic Conductivity (ft/d)
			(ft^2/d)	(gpd/ft)	(dimensionless)		
EW-01	Hantush-Jacob - Drawdown	F-92	70	525	0.0022	27	3
		EW-02	73	547	0.0016		3
	Hantush-Jacob - Recovery	F-92	69	515	0.0006		3
		EW-02	63	472	0.0004		2
EW-02	Hantush-Jacob - Drawdown	MW-66A	109	815	0.0004	27	4
		EW-01	109	815	0.0007		4
		EW-03	141	1,057	0.0023		5
	Hantush-Jacob - Recovery	MW-66A	115	860	0.0004		4
		EW-01	102	760	0.0005		4
		EW-03	135	1,010	0.0017		5
EW-03	Hantush-Jacob - Drawdown	EW-01	115	862	0.0012	27	4
		Geronimo B (GSX-2)	90	672	0.017		3
		MW-66A	87	651	0.0004		3
	Theis - Recovery	EW-01	98	736	---		4
		Geronimo B (GSX-2)	99	741	---		4
	Hantush-Jacob - Recovery	MW-66A	85	636	0.0004		3
EW-04	Cooper Jacob - Drawdown	W-123	130	972	0.15	19	7
	Hantush-Jacob - Recovery	W-123	149	1,115	0.01		8

Abbreviations:
d - day
ft - foot/feet
gpd - gallons per day

Table 6 - Analytical Results for Extraction Well Groundwater Samples

Sample Location			EW-02	EW-04
Analyte	**Units**	**GWPS/BTV**	**1/8/2021**	**1/5/2021**
Arsenic	mg/L	0.01	0.0034	0.0043
Bicarbonate	mg/L	---	150	51
Calcium	mg/L	740	730	770
Chloride	mg/L	5,700	4,000	4,900
Cobalt	mg/L	0.006	0.0011	0.0024
Fluoride	mg/L	4	1.6	3.9
Iron	mg/L	---	0.37	0.089
Lithium	mg/L	0.31	**0.62**	**0.43**
Magnesium	mg/L	---	330	200
Molybdenum	mg/L	0.1	0.038	**0.48**
Potassium	mg/L	---	11	29
Sulfate	mg/L	5,100	3,300	3,000
Total Dissolved Solids	mg/L	15,000	11,000	12,000

Notes:

Appendix III constituents are highlighted in light green

Appendix IV constituents are highlighted in dark green

Concentrations exceeding respective Groundwater Protection Standards are bolded

Abbreviations:

BTV - Background Threshold Value

GWPS - Groundwater Protection Standard

mg/L - milligrams per liter

Figures

Site Location

Legend

CCR Monitoring Well Location

Moenkopi Formation (Moqui Member) Monitoring Well

Supplementary Site Monitoring Well Location

Moenkopi Formation (Wupatki Member) Monitoring Well

C-Aquifer Monitoring Well

Piezometer Location

Alluvial Piezometer

Moenkopi Formation (Moqui Member) Piezometer

Moenkopi Formation (Wupatki Member) Piezometer

C-Aquifer Piezometer

Other Features

Alluvial Extraction Well

Seepage Collection Sump

Discharge Piping (approximate)

Seepage Collection Trench (approximate)

Retention Basin (approximate)

Canal

Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A Well Identification

CCR Coal Combustion Residuals

0 20 40 60
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 1

FAP Extraction Well Location Map

Job No.	14-2018-2040
PM:	MBH
Date:	3/5/2021
Scale:	1"= 60'

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\WCR FAP Extraction Wells\Figure1_FAP_ExtractionWell_AquiferTestObservation.mxd

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well

Supplementary Site Monitoring Well Location

- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well

Piezometer Location

- Alluvial Piezometer
- Moenkopi Formation (Moqui Member) Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer
- C-Aquifer Piezometer

Other Features

- Alluvial Extraction Well
- Moenkopi formation (Moqui Member) Extraction Well
- Seepage Collection Sump
- Discharge Piping (approximate)
- Seepage Collection Trench (approximate)
- Retention Basin (approximate)
- Boring
- Canal
- Extent of Alluvial Material
- Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A Well Identification
CCR Coal Combustion Residuals

0 125 250
Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 2	FAP Investigative Boring Location Map

Job No.	14-2018-2040
PM:	MBH
Date:	3/5/2021
Scale:	1"= 250'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\WCR FAP Extraction Wells\Figure2_FAP_InvestigativeBorings.mxd

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well

Supplementary Site Monitoring Well Location

- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well

Piezometer Location

- Alluvial Piezometer
- Moenkopi Formation (Moqui Member) Piezometer
- Moenkopi Formation (Wupatki Member) Piezometer
- C-Aquifer Piezometer

Other Features

- Alluvial Extraction Well
- Moenkopi formation (Moqui Member) Extraction Well
- Seepage Collection Sump
- Discharge Piping (approximate)
- Seepage Collection Trench (approximate)
- Retention Basin (approximate)
- Aquifer Test Observation Points
- Canal
- Approximate Extent of CCR Unit

Notes and Abbreviations:

MW-65A	Well Identification
CCR	Coal Combustion Residuals

0 50 100 150 Feet

N

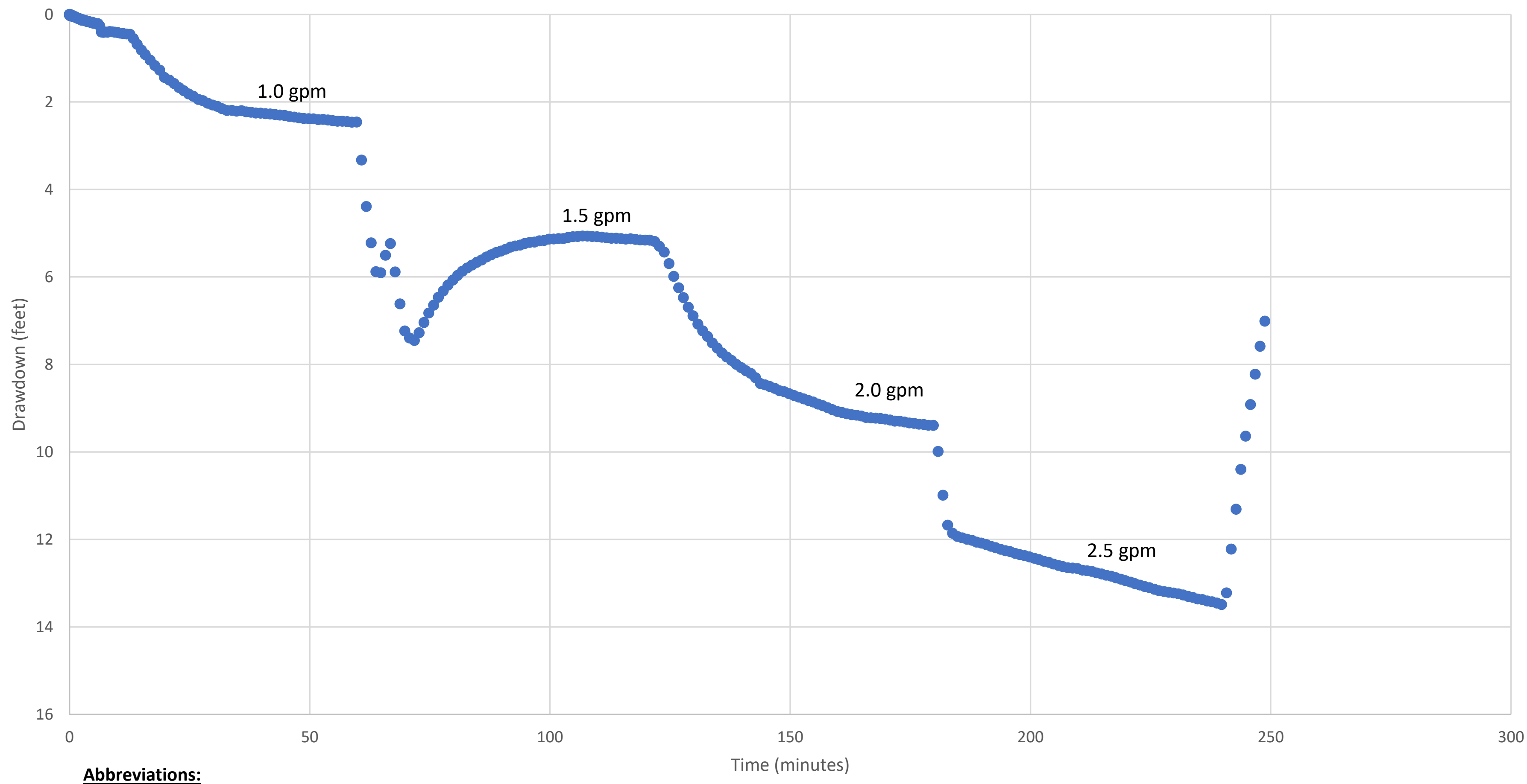
Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 3	**FAP Extraction Well and Aquifer Test Observation Point Map**

Job No.	14-2018-2040
PM:	MBH
Date:	3/5/2021
Scale:	1"= 150'

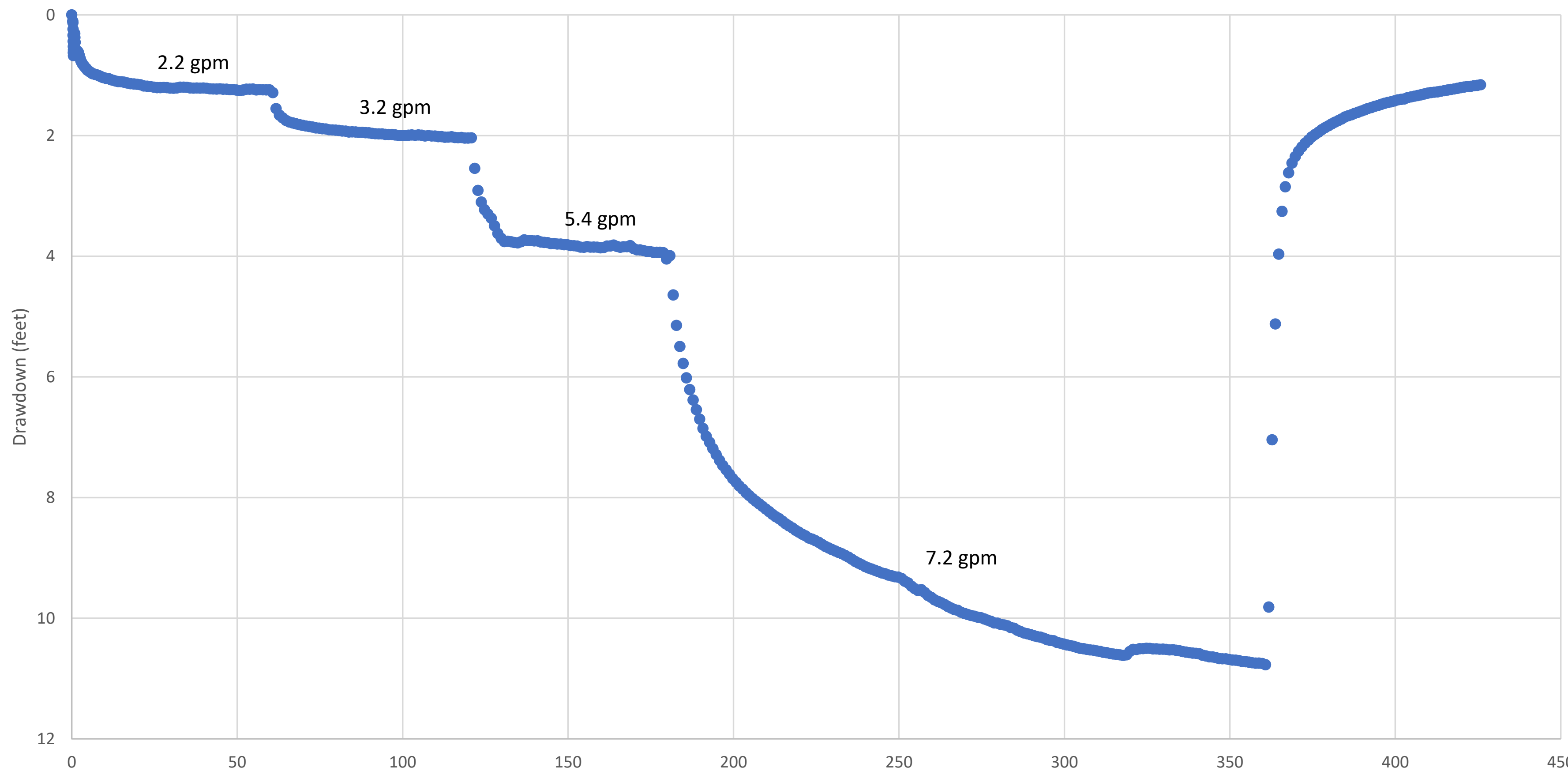
wood.

Figure 4
EW-01 Step-Rate Test Drawdown Data



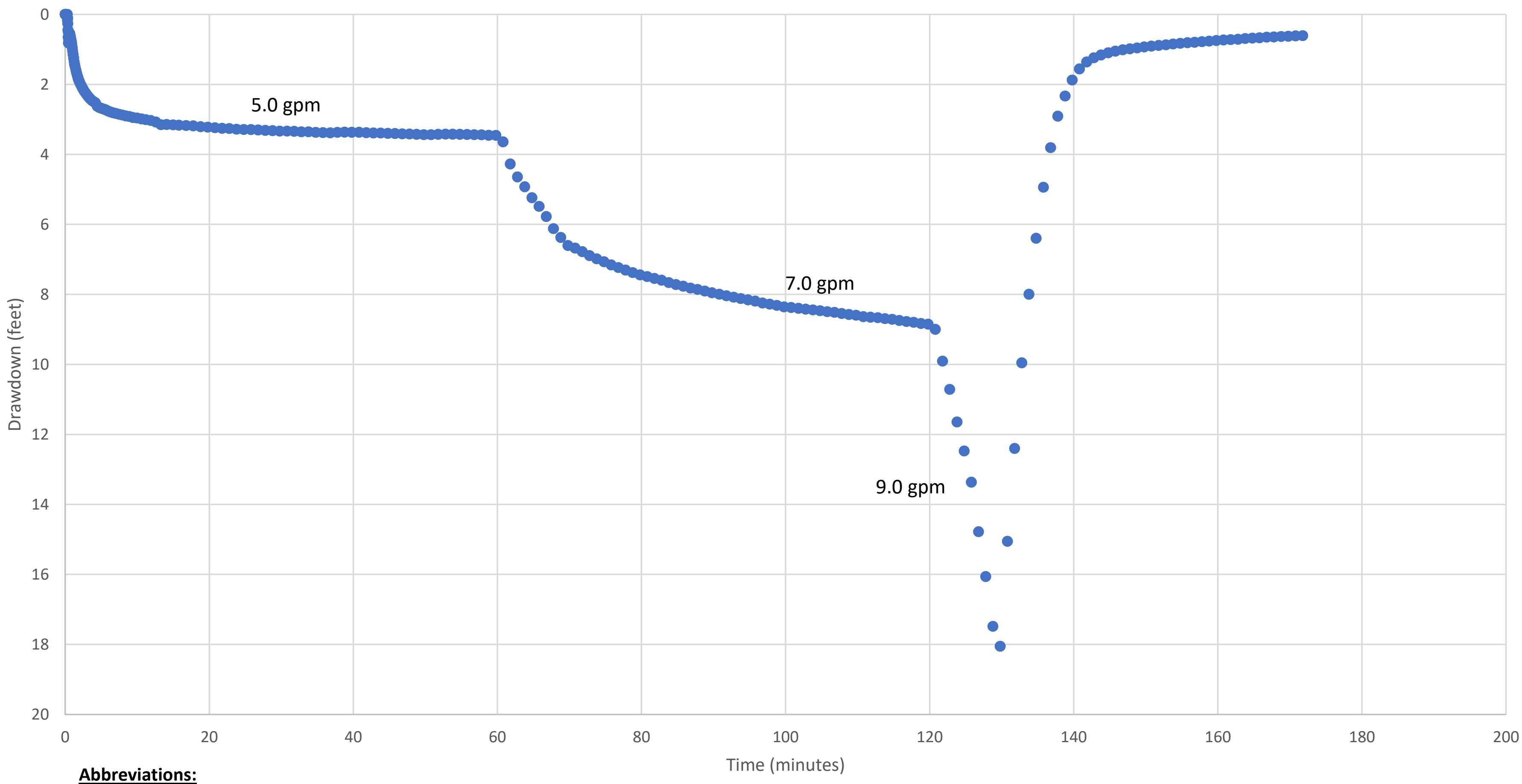
Abbreviations:
gpm - gallons per minute

Figure 5
EW-02 Step-Rate Test Drawdown Data



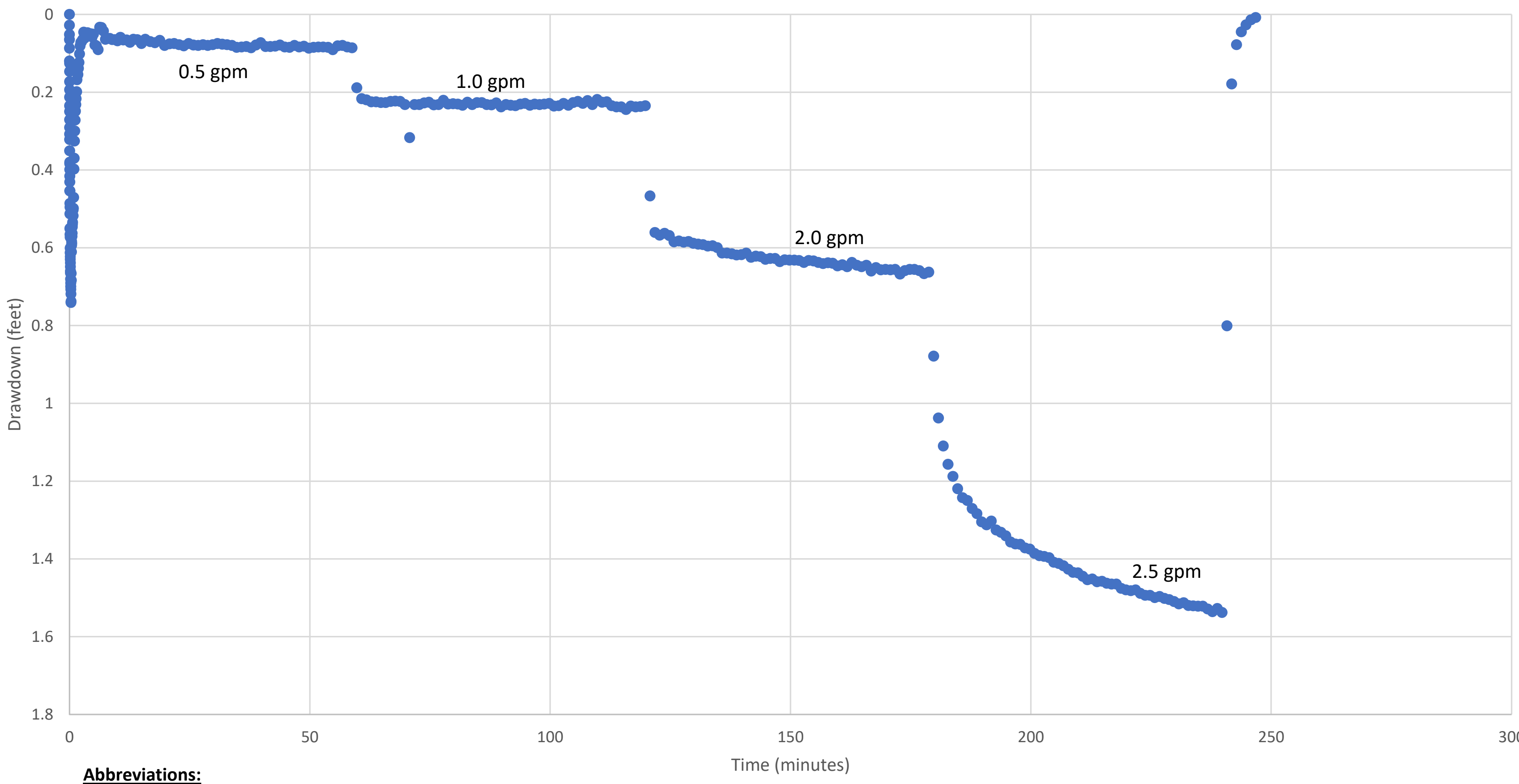
Abbreviations:
gpm - gallons per minute

Figure 6
EW-03 Step-Rate Test Drawdown Data



Abbreviations:
gpm - gallons per minute

Figure 7
EW-04 Step-Rate Test Drawdown Data



Abbreviations:
gpm - gallons per minute

Figure 8
Observation Point Water Level Data

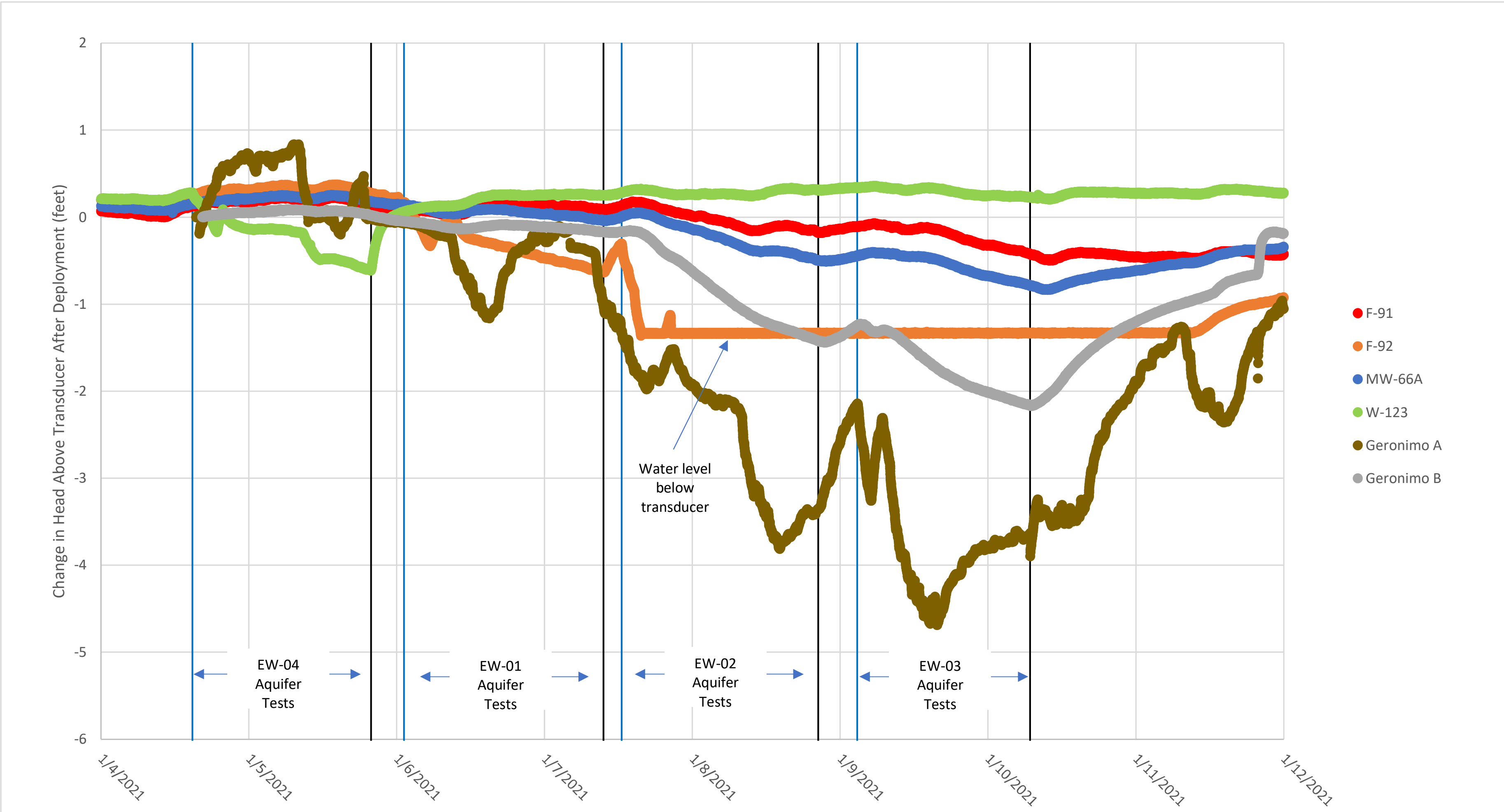


Figure 9
Extraction Well Water Level Data

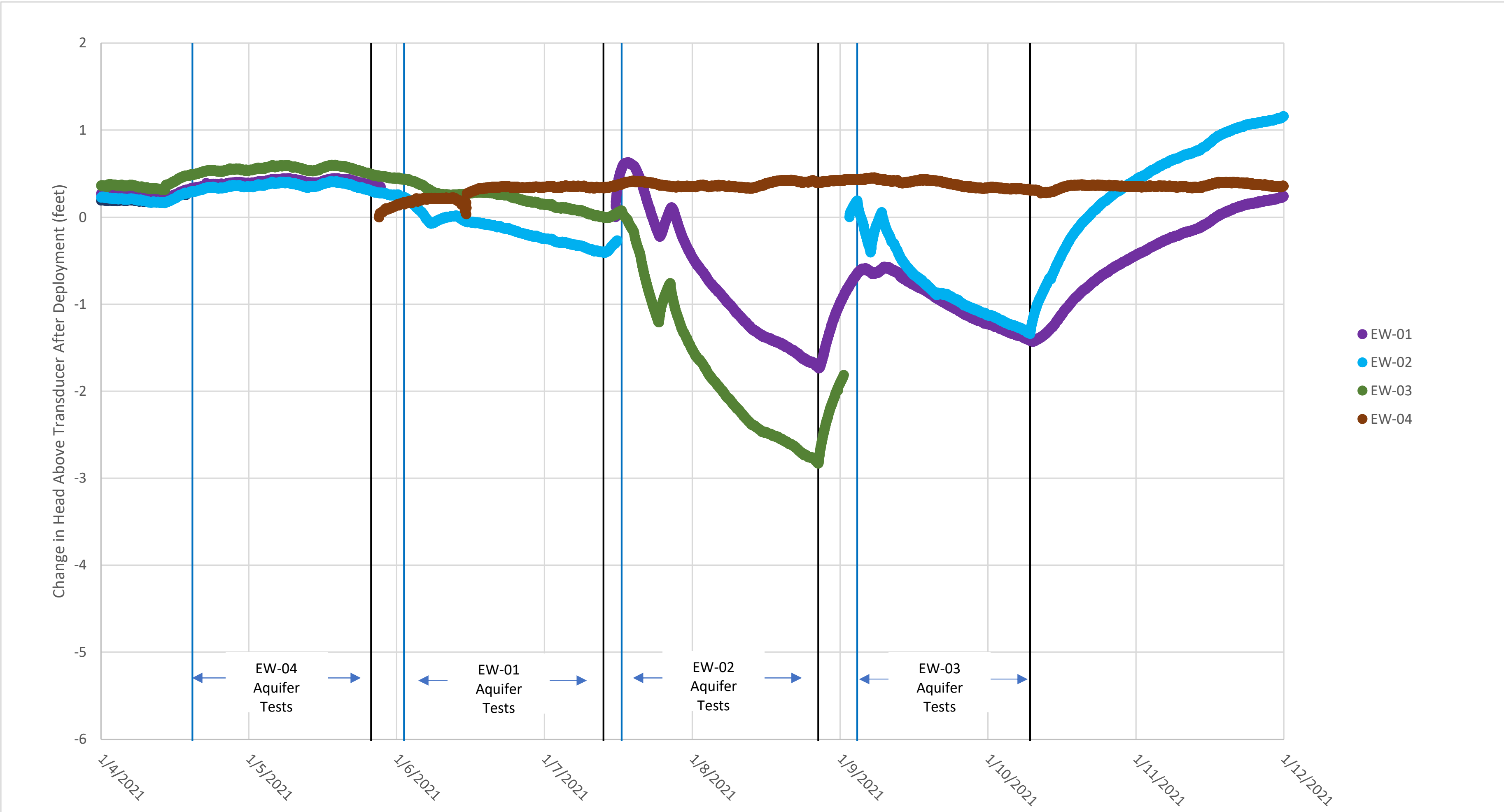
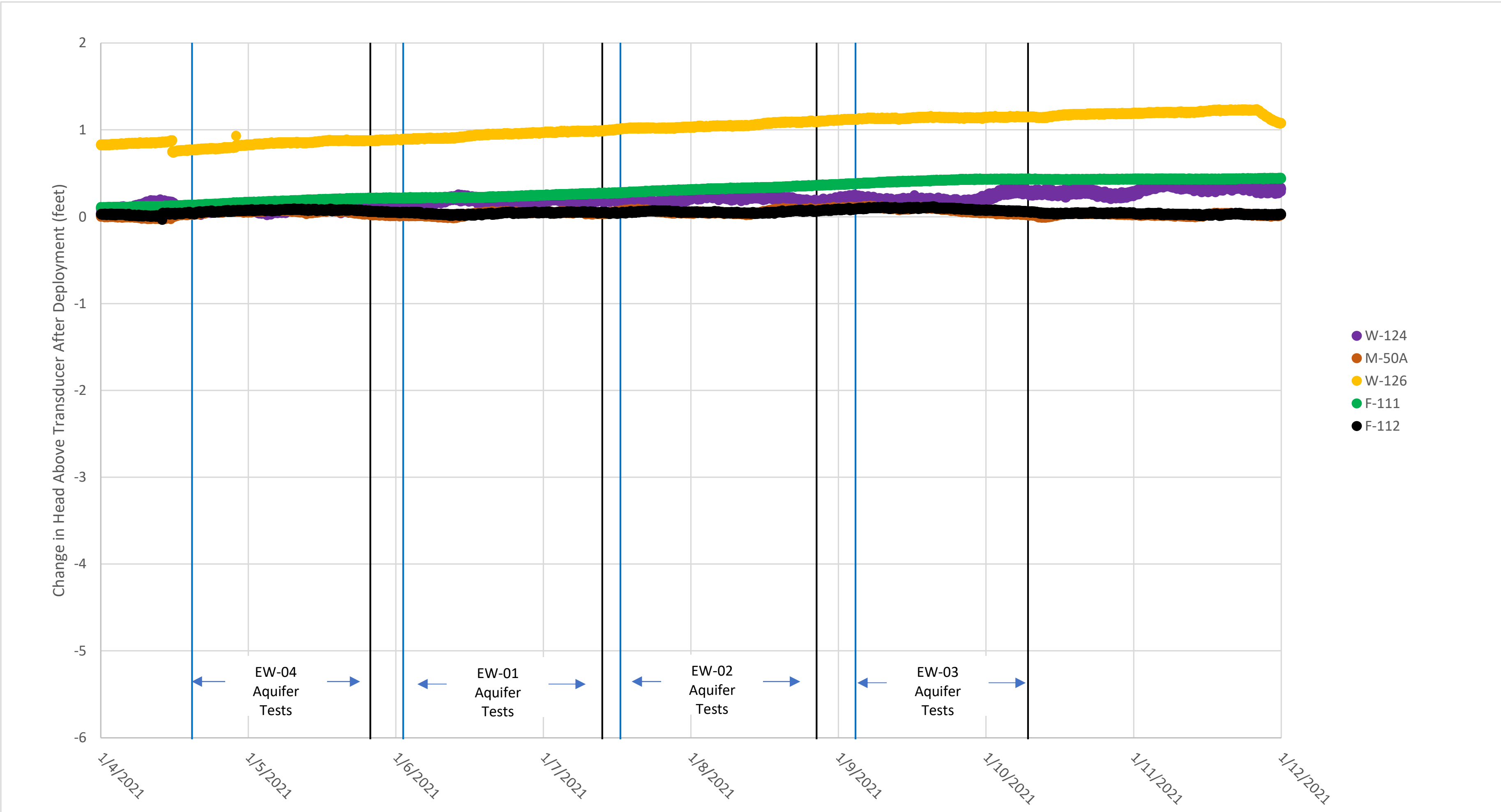


Figure 10
Observation Point Water Level Data



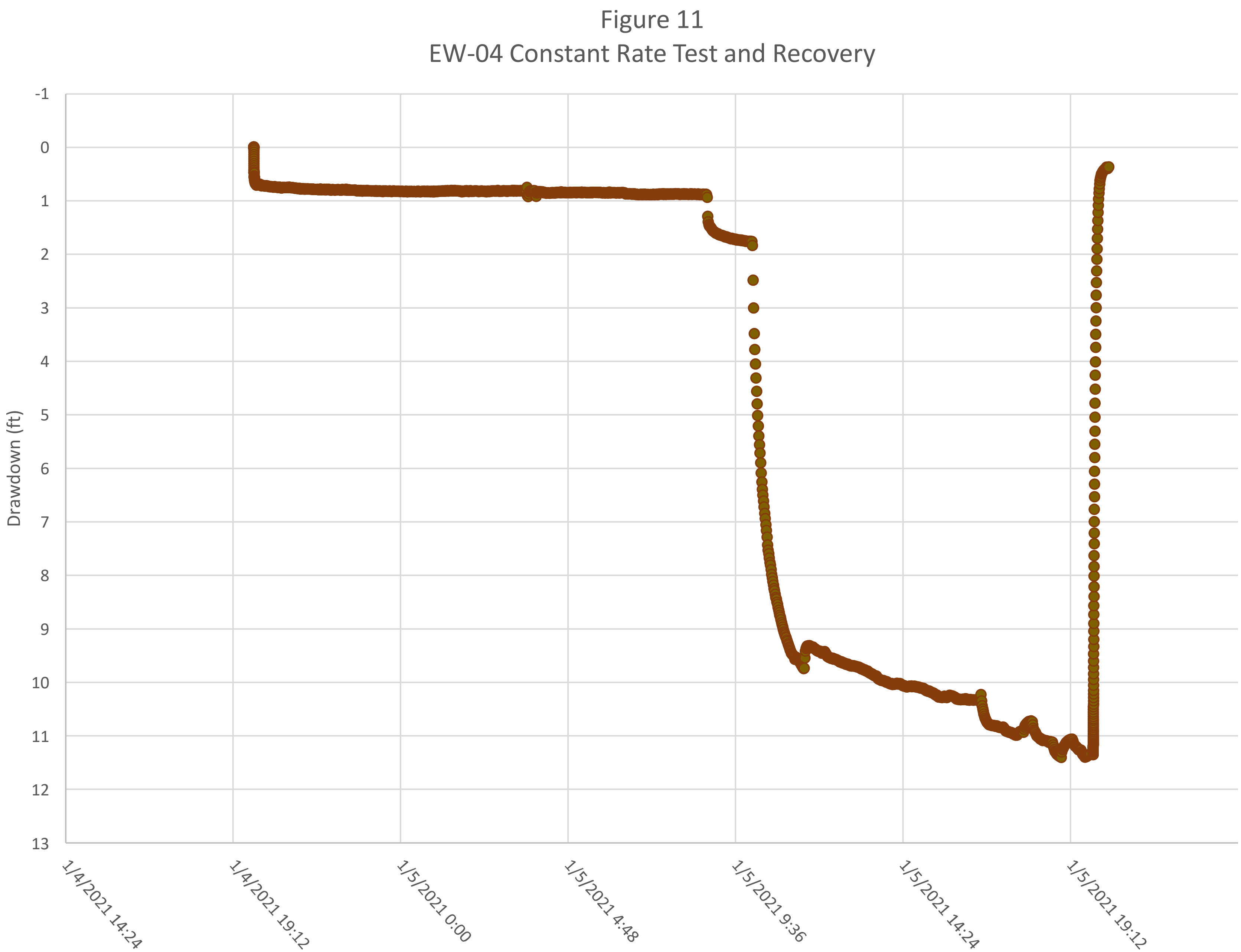


Figure 11
EW-04 Constant Rate Test and Recovery
Drawdown (ft)
-1
0
1
2
3
4
5
6
7
8
9
10
11
12
13
1/4/2021 14:24
1/4/2021 19:12
1/5/2021 0:00
1/5/2021 4:48
1/5/2021 9:36
1/5/2021 14:24
1/5/2021 19:12

Appendix A

Lithologic Logs and Well Construction Diagrams

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

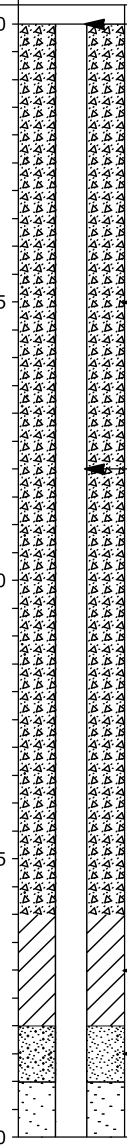
BORING LOG I.D.: EW-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925217
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429449.21, E669561.94
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5035.09
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5037.36
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/09/2020 **START TIME:** 13:59
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/10/2020 **COMPLETION TIME:** 11:51

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5035.1	0					Hydro-excavated from 0 to 6'
5030.1	5					
	6				ML	**SILT WITH SAND,** 75% fines, 25% fine grained subrounded sand, uncemented to weakly cemented, low plasticity, dark reddish brown (5YR 3/3), slightly moist, low dry strength, no odor, predominant gypsum filaments
5025.1	10					
5020.1	15					note: at 15' moist
	17				ML	**SILT,** 90% fines, homogenous, weakly cemented, low to medium plasticity, reddish brown (5YR 4/4), moist, no odor, trace gypsum nodules
5015.1	20					

WELL INFORMATION (Construction Details and/or Drilling Remarks)

Depth in Feet: 0, 5, 10, 15, 20



(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.4	11:15	12/13/2020
▼	23.1	11:00	12/14/2020
▼	23.2	---	12/30/2020
▼			

METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925217	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5015.1	20						20	Filter Pack (12-20 silica sand) From 19' to 51'
5010.1	25						25	
5005.1	30						30	
5000.1	35						35	6" schedule 80 PVC Screen (0.020-in slot size) From 20' to 50'
					ML	**CLAYEY SILT,** 95% fines with high clay content, homogenous, moderately cemented, high plasticity, reddish brown (5YR 5/3), wet, no odor, trace gypsum		
4995.1	40						40	
					SM	**SILTY SAND WITH GRAVEL,** 40% fine		
4990.1	45						45	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	23.4	11:15	12/13/2020
▼	23.1	11:00	12/14/2020
▼	23.2	---	12/30/2020
▼			

METHOD

(Continued Next Page)

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.

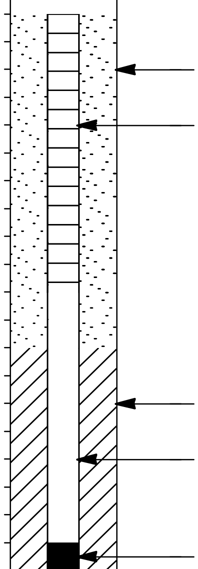
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925217	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet
4990.1	45					to coarse grained subrounded sand, 35% fine to coarse grained subrounded gravel, 25% fines, uncemented, no to low plasticity, reddish brown (2.5YR 4/4), wet, no odor	45
4985.1	50					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** predominately pale-reddish brown, very thin to thinly laminated, interbedded with thin greenish-pale grey siltstone, and white, medium bedded gypsum, dry	50
4980.1	55						55
4975.1	60						60
4970.1	65						65
4965.1	70						70

WELL INFORMATION (Construction Details and/or Drilling Remarks)



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	23.4	11:15	12/13/2020
▼	23.1	11:00	12/14/2020
∇	23.2	---	12/30/2020
∇			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

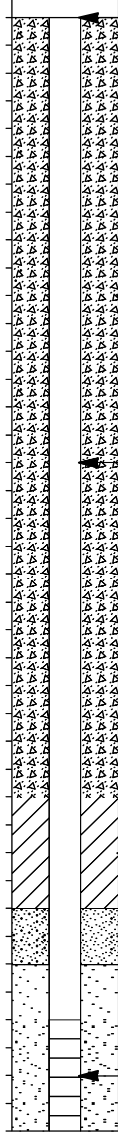
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925218
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429318.29, E669705.64
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5034.01
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5036.64
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/11/2020 **START TIME:** 10:04
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/11/2020 **COMPLETION TIME:** 16:28

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5034.0	0					Hydro-excavated from 0 to 6'
5029.0	5					
					ML	**SILT WITH SAND,** 75% fines, 25% fine grained subrounded sand, low plasticity, weakly to moderately cemented, dark reddish brown (5YR 3/3), slightly moist, low dry strength, no odor, predominant gypsum filaments from 6' to 9' note: at 9' gypsum filaments absent, trace gypsum nodules noted
5024.0	10					
5019.0	15				SM	**SILTY SAND,** 65% fine to coarse grained subrounded to subangular sand, 35% fines, rare fine to coarse grained subrounded to subangular gravel, predominantly uncemented, no to low plasticity, reddish brown color (2.5YR 4/4), wet, no odor, trace gypsum nodules note: at 17.5' coarse grained sand increases significantly
5014.0	20					

WELL INFORMATION (Construction Details and/or Drilling Remarks)



- 0: 3'x3' concrete pad with +3' steel vault monument
- 5: Portland Cement Grout From 0' to 16'
- 6" schedule 80 PVC Casing From 2.6' to 18'
- 15: Bentonite Seal From 14' to 16'
- Transition Sand (20-40 silica sand) From 16' to 17'
- 6" schedule 80 PVC Screen (0.020-in slot size) From 18' to 48'
- 20

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	22.3	12:58	12/13/2020
▼	22.3	11:00	12/15/2020
▼	22.1	---	12/30/2020
▼			

METHOD ______________

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925218	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5014.0	20				ML	**SILTY SAND,** 60% fines, 40% predominantly fine grained subrounded sand, homogenous, uncemented to weakly cemented, low to medium plasticity, reddish brown (5YR 4/4), wet, no odor, trace gypsum nodules	20	Filter Pack (12-20 silica sand) From 17' to 49'
						note: from 24' to 25' coarse grained sand increases		
5009.0	25						25	
5004.0	30						30	6" schedule 80 PVC Screen (0.020-in slot size) From 18' to 48'
						note: from 33' to 35' coarse grained sand increases		
4999.0	35					note: from 35' to 37' trace subrounded to subangular gravel up to 1.5 cm in diameter	35	
					SM	**SILTY SAND WITH GRAVEL,** 55% predominantly fine-grained subrounded sand, 25% fines, 20% fine to coarse grained subrounded to subangular gravel, homogenous, uncemented, low plasticity, reddish-brown (2.5YR 4/3), wet, very soft, no odors		
4994.0	40						40	
					ML	**GRAVELLY SILT WITH SAND,** 45% fines of predominantly silt with high clay content, 35% fine to coarse grained predominantly subrounded gravel, 20% predominantly fine grained subrounded		
4989.0	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇	22.3	12:58	12/13/2020
▼	22.3	11:00	12/15/2020
▼	22.1	---	12/30/2020
▼			

METHOD ______________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

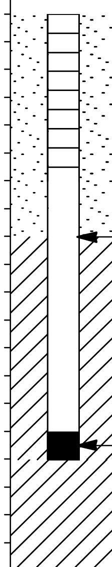
wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925218	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet
4989.0	45					sand, homogenous, weakly cemented, medium plasticity, dark reddish brown (5YR 3/4), moist, firm, no odors, and some gypsum filaments and nodules from 43' to 45' note: at 45' gravel increases in volume, average diameter ~ 3 cm	45
						TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE, pale-reddish brown, very thin to thinly laminated, interbedded thin band of pale-greenish-grey siltstone, and thin bedded white gypsum, dry	
4984.0	50						50
4979.0	55						55
4974.0	60						60
4969.0	65						65
4964.0	70						70

WELL INFORMATION
(Construction Details and/or Drilling Remarks)



Filter Pack (12-20 silica sand)
From 17' to 49'

6" schedule 80 PVC Casing
From 48' to 53'

Bentonite Seal
From 49' to 55'

PVC End Cap

GROUNDWATER

DEPTH(ft bgs)	HOUR	DATE
22.3	12:58	12/13/2020
22.3	11:00	12/15/2020
22.1	---	12/30/2020

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

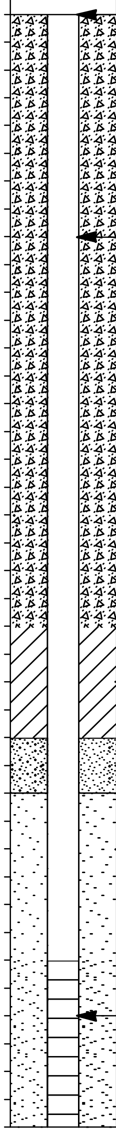
BORING LOG I.D.: EW-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925215
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429260.98, E669767.09
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5035.20
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5037.71
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/12/2020 **START TIME:** 08:43
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/12/2020 **COMPLETION TIME:** 15:04

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5035.2	0					Hydro-excavated from 0 to 6'
5030.2	5					
	6				ML	**SILT WITH SAND,** 70% fines, 30% predominantly fine grained subrounded sand, weakly to moderately cemented, low plasticity, moist, dark reddish brown (5YR 3/4), no odor, some gypsum nodules and filaments decreasing with depth
5025.2	10					
5020.2	15				SM	**SILTY SAND,** 75% fine to coarse grained subrounded to subangular sand, 25% fines, rare fine to coarse grained subrounded to subangular gravel, uncemented, no to low plasticity, reddish brown (2.5YR 4/4), wet, no odor, trace gypsum nodules
5015.2	20					

WELL INFORMATION
(Construction Details and/or Drilling Remarks)

Depth in Feet: 0, 5, 10, 15, 20



3'x3' concrete pad with +3' steel vault monument

6" schedule 80 PVC Casing
From 2.6' to 17'

Portland Cement Grout
From 0' to 16'

Bentonite Seal
From 11' to 13'

Transition Sand (20-40 silica sand)
From 13' to 14'

Filter Pack (12-20 silica sand)
From 14' to 48'

6" schedule 80 PVC Screen
(0.020-in slot size)
From 17' to 47'

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▼	23.4	---	12/30/2020
▼			

METHOD ____________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925215	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5015.2	20						20	
5010.2	25						25	
					ML	**SANDY SILT,** 65% fines, 35% predominantly fine grained subrounded sand, uncemented to moderately cemented, low to medium plasticity, reddish brown (5YR 4/4) to dark reddish brown (5YR 3/4), wet, no odor, trace gypsum nodules decreasing with depth note: from 29.5' to 30' fine to coarse grained subrounded to subangular sand lenses		
5005.2	30						30	Filter Pack (12-20 silica sand) From 14' to 48'
						note: from 32' to 35' moist, very stiff, clay increases, sand decreases, predominantly silt		
5000.2	35					note: at 35' wet	35	6" schedule 80 PVC Screen (0.020-in slot size) From 17' to 47'
4995.2	40						40	
					GM	**SILTY GRAVEL WITH SAND,** 55% fine to coarse grained predominantly subrounded gravel, 25% fine to coarse grained subrounded to subangular sand, 20% fines, predominantly uncemented, low plasticity, dark reddish brown (5YR		
4990.2	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▼	23.4	---	12/30/2020
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

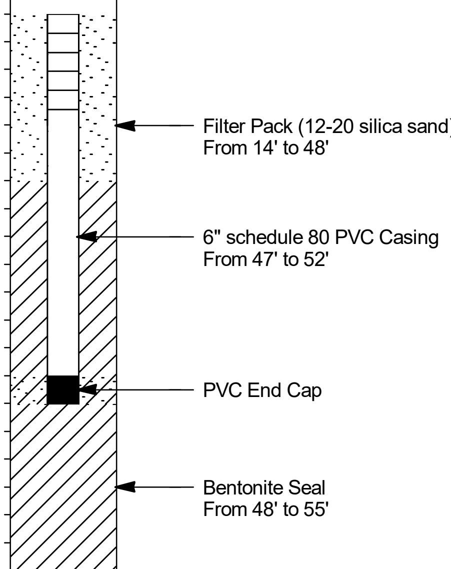
wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925215	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet
4990.2	45					3/3), wet, predominantly very soft, no odors	45
					ML	**GRAVELLY SILT WITH SAND,** 55% fines, 25% fine to coarse grained predominantly subrounded gravel, 20% predominantly fine grained subrounded sand, homogeneous, moderately cemented, medium plasticity, dark reddish brown (5YR 3/4), moist, firm to very firm, no odor	
4985.2	50					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** pale-reddish-brown, very thin to thinly laminated siltstone, interbedded with very thin white gypsum beds note: Dry	50
4980.2	55						55
4975.2	60						60
4970.2	65						65
4965.2	70						70

WELL INFORMATION
(Construction Details and/or Drilling Remarks)



GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	23.2	14:03	12/13/2020
▼	24.0	10:30	12/16/2020
▼	23.4	---	12/30/2020
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-04

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925216
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1429150.44, E669906.4
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5037.18
BORING TYPE:	--- **BORING DIA.:** 10"	**MEAS. PT. ELEV (FT):**	5039.93
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/10/2020 **START TIME:** 12:53
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/10/2020 **COMPLETION TIME:** 17:26

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)
5037.2	0					Hydro-excavated from 0 to 6'
5032.2	5					
						UNABLE TO RETREIVE CORES, too hydrated
5027.2	10				SM	**SILTY SAND,** 55% fine grained subrounded sand, 40% fines, 5% fine to coarse grained subrounded to subangular gravel, homogeneous, uncemented, non-plastic, reddish-brown (2.5YR 4/4), wet, no odor, occasional gypsum nodules
5022.2	15					
					GC	**CLAYEY GRAVEL,** 70% fine to coarse grained subrounded to subangular gravel, 20% fines, 10% fine to coarse grained subrounded to subangular sand, moderately cemented, medium plasticity, dark reddish brown (5YR 3/4), predominantly moist, no odor
5017.2	20					

Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
0	3'x3' concrete pad with +3' steel vault monument
	Portland Cement Grout From 0' to 5'
5	6" schedule 80 PVC Casing From 2.6' to 9'
	Bentonite Seal From 5' to 7'
	Transition Sand (20-40 silica sand) From 7' to 8'
10	6" schedule 80 PVC Screen (0.020-in slot size) From 9' to 19'
15	Filter Pack (12-20 silica sand) From 8' to 20'
20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	0.2	15:53	12/13/2020
▼	0.4	08:30	12/18/2020
▼	0.4	---	12/30/2020
▼			

METHOD

aps

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: EW-04

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925216	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5017.2	20					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** pale-reddish-brown, very thin to thinly laminated, interbedded with thin bedded white gypsum	20	6" schedule 80 PVC Casing From 19' to 24'
						note: at 24' bedrock came up wet due to high amount of water required for drilling to advance		PVC End Cap
5012.2	25						25	Bentonite Seal From 20' to 30'
5007.2	30						30	
5002.2	35						35	
4997.2	40						40	
4992.2	45						45	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽	0.2	15:53	12/13/2020
▼	0.4	08:30	12/18/2020
▼	0.4	---	12/30/2020
▼			

METHOD ____________

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925219
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1428532, E671106.1
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5082.72
BORING TYPE:	--- **BORING DIA.:** 8"	**MEAS. PT. ELEV (FT):**	---
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/15/2020 **START TIME:** 08:30
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/15/2020 **COMPLETION TIME:** 12:23

Elevation in Feet	Depth in Feet	Graphical Log	Sample I.D. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5082.7	0					Hydro-excavated from 0 to 6.5'	0	
5077.7	5						5	
					SM	**SILTY SAND,** 70% fine to coarse grained subrounded to subangular sand, 25% fines, 5% fine to coarse grained subrounded to subangular gravel, homogeneous, no to low plasticity, reddish-brown (2.5YR 4/4), wet, no odor		
5072.7	10					note: from 11' to 17' occasional gravel	10	Bentonite Grout From 0' to 50'
5067.7	15						15	
					ML	**SILT WITH SAND,** 65% fines, 35% predominantly fine grained subrounded sand, weakly cemented, low plasticity, reddish-brown (5YR 4/4) to dark-reddish-brown (5YR 3/4), moist, loose to medium density, low to medium dry strength, no odor		
5062.7	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD ____________

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925219	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5062.7	20					note: at 17 to 18' predominantly silt with high clay content at 18' occasional gypsum	20	
						TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE, pale-reddish-brown, very thin to thinly laminated, brittle to friable, interbedded with thin pale-greenish-grey siltstone, and thin bedded white gypsum		
5057.7	25					note: from 22' to 27' dry to slightly moist	25	
						note: from 27' to 28' moist to wet due to water coming in at top of casing during drill rig maintenance		
5052.7	30						30	Bentonite Grout From 0' to 50'
						note: from 34' to 35' moist, predominantly pale-green claystone lenses		
5047.7	35					note: from 35' to 41' dry	35	
5042.7	40						40	
						note: from 41' to 42' moist, predominantly pale-green claystone lenses		
						note: from 42' to 50' highly cemented sandstone		
5037.7	45					note: from 44.5' to 45' wet due to water	45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-01

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925219	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5037.7	45					used to advance drilling through very hard bedrock	45	Bentonite Grout From 0' to 50'
5032.7	50						50	
5027.7	55						55	
5022.7	60						60	
5017.7	65						65	
5012.7	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
∇		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
aps							---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925219
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1430318, E668669.6
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5038.89
BORING TYPE:	--- **BORING DIA.:** 8"	**MEAS. PT. ELEV (FT):**	---
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/14/2020 **START TIME:** 13:40
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/14/2020 **COMPLETION TIME:** 16:00

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5038.9	0					Hydro-excavated from 0 to 5'	0	
5033.9	5					**TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE,** pale-reddish-brown, very thin to thinly laminated, brittle to friable, interbedded with thin pale-greenish-grey siltstone, and thin to medium bedded white gypsum, predominantly dry with moisture increasing just above and below gypsum beds note: from 5' to 15' predominantly moist	5	
5028.9	10						10	Bentonite Grout From 0' to 50'
5023.9	15					note: from 16.5' to 17' slightly wet note: from 17' to 21.5' dry	15	
5018.9	20						20	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-02

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925219	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5018.9	20						20	
						note: from 21.5' to 22.5' moist		
						note: from 22.5' to 25' dry		
5013.9	25					note: from 25'-27.5' slightly moist to moist	25	
						note: from 28' to 33' dry		
5008.9	30						30	Bentonite Grout From 0' to 50'
						note: from 33' to 50' predominantly moist due to thicker gypsum beds		
5003.9	35						35	
4998.9	40						40	
4993.9	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-02

PROJECT:		PROJECT LOCATION:	APS Cholla Power Plant
ADWR REG. #:	55-925219	PROJECT FEATURE:	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4993.9	45						45	Bentonite Grout From 0' to 50'
4988.9	50						50	
4983.9	55						55	
4978.9	60						60	
4973.9	65						65	
4968.9	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
PROJECT MANAGER:	Maren Henley	**PROJECT FEATURE:**	Fly Ash Pond
LOGGED BY:	Isaac Torres	**WOOD PROJECT #:**	14-2018-2040
DRILLER:	Jason Camp	**ADWR REG. #:**	55-925220
DRILLER FIRM:	Cascade Drilling	**COORDINATES:**	N1428542, E669819.3
RIG I.D.:	---	**COORDINATE SYS:**	NAD83
RIG TYPE:	Sonic	**SURFACE ELEV. (FT):**	5032.93
BORING TYPE:	--- **BORING DIA.:** 8"	**MEAS. PT. ELEV (FT):**	---
ORIENTATION:	90°	**VERTICAL DATUM:**	NAVD88
HAMMER TYPE:	---	**START DATE:**	12/14/2020 **START TIME:** 09:23
HAMMER CALIBRATION-ENERGY TRANSFER RATIO:	---	**COMPLETION DATE:**	12/14/2020 **COMPLETION TIME:** 11:18

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5032.9	0					Hydro-excavated from 0 to 5'	0	
5027.9	5				ML	**SANDY SILT,** 65% fines, 35% predominantly fine grained subrounded sand, uncemented, low plasticity, reddish-brown (2.5 YR 4/4), moist, loose to medium density, low dry strength, no odor, 2" gypsum lenses at ~ 6.5'	5	
						TRMHM - MOQUI MEMBER OF MOENKOPI FORMATION, SILTSTONE, pale-reddish-brown, very thin to thinly laminated, brittle to friable, interbedded with thin pale-grey siltstone, and thin to medium bedded white gypsum		
5022.9	10					note: from 8.5' to 9' pale-green thinly laminated (~ 1 mm thick) friable siltstone note: from 9' to 10' gypsum bed note: from 11' to 11.5' gypsum lenses note: at 12' drilling difficulty increases	10	Bentonite Grout From 0' to 50'
5017.9	15					note: at 15' slightly moist	15	
5012.9	20						20	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD ____________

(Continued Next Page)

UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
						---

wood.
Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925220	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
5012.9	20						20	
5007.9	25						25	
						note: from 28' to 29' moist just above and below ~ 2" thick gypsum beds		
5002.9	30						30	Bentonite Grout From 0' to 50'
						note: from 30.5' to 32' moist, thinly interbedded layers of gypsum		
						note: from 32' to 50' 1.5" to 3.5" thick layers of interbedded siltstone and gypsum, predominantly slightly moist but moist around gypsum bedding		
4997.9	35						35	
4992.9	40						40	
4987.9	45						45	

(Continued Next Page)

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL
							---

wood.

Environment & Infrastructure Solutions, Inc.
4600 East Washington Street, Suite 600
Phoenix, Arizona 85034

BORING LOG I.D.: INV-03

PROJECT:		**PROJECT LOCATION:**	APS Cholla Power Plant
ADWR REG. #:	55-925220	**PROJECT FEATURE:**	Fly Ash Pond

Elevation in Feet	Depth in Feet	Graphical Log	Sample ID. or Date (Time)	PID Meter Reading (ppm)	Unified Soil Classification	VISUAL CLASSIFICATION (Color, Moist, % by wt., Plasticity, Dilatancy, Toughness, Dry Strength, Consistency)	Depth in Feet	WELL INFORMATION (Construction Details and/or Drilling Remarks)
4987.9	45						45	Bentonite Grout From 0' to 50'
4982.9	50						50	
4977.9	55						55	
4972.9	60						60	
4967.9	65						65	
4962.9	70						70	

GROUNDWATER

	DEPTH(ft bgs)	HOUR	DATE
▽		N/A	N/A
▼	N/A	N/A	N/A
▼			
▼			

METHOD

aps	UNIT	DISC.	TYPE	SYS	NUMBER	SHEET	WELL

Appendix B

Photograph Log

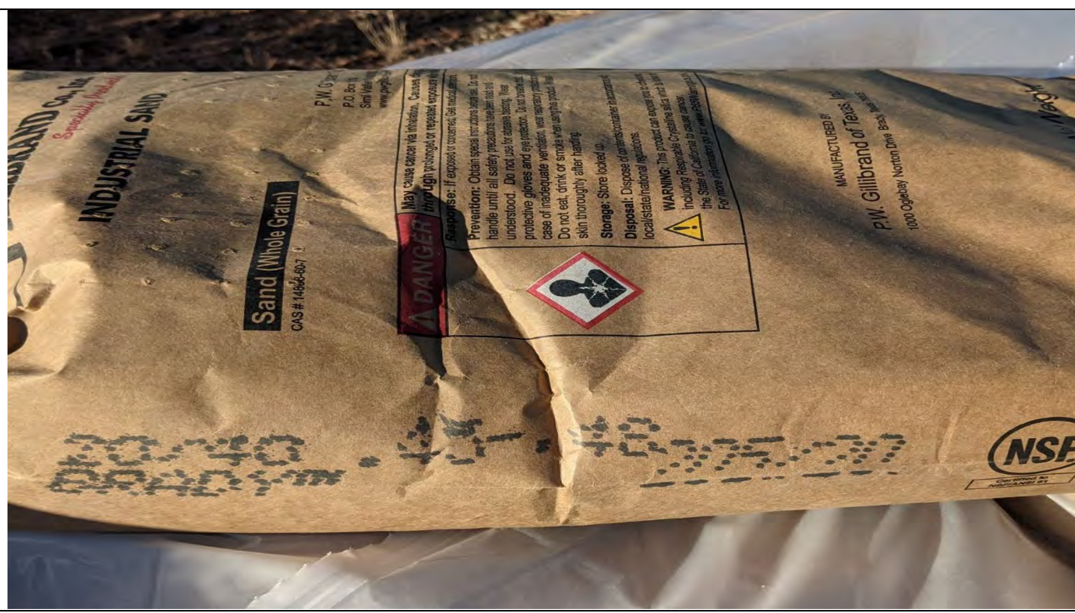
Photograph Log

Photograph 1.

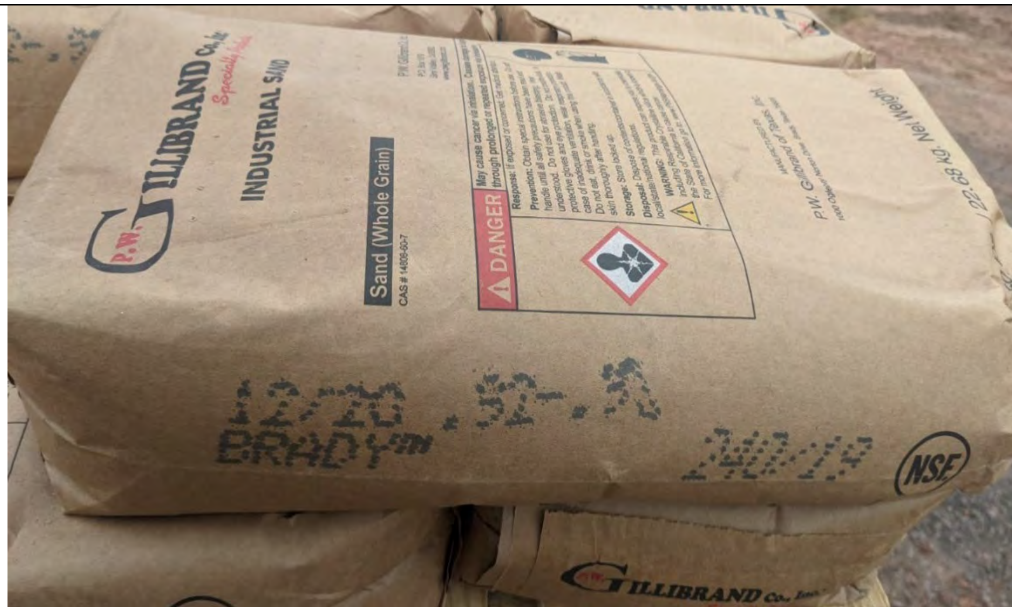
Annular material used for extraction wells.

Photograph 2.

Annular material used for extraction wells.



Photograph Log

Photograph 3. Annular material used for extraction wells.	
Photograph 4. 5 to 7.5 feet below ground surface (ft bgs) formation samples from EW-01.	

Photograph 5. 7.5 to 10 ft bgs formation samples from EW-01.	
Photograph 6. 10 to 12.5 ft bgs formation samples from EW-01.	

Photograph Log

Photograph 7. 15 to 17.5 ft bgs formation samples from EW-01.	
Photograph 8. 20-22.5 ft bgs from EW-01.	

Photograph Log

Photograph 9.

22.5-25 ft bgs formation samples from EW-01.

Photograph 10.

27.5 ft to 30 ft bgs formation samples from EW-01.

Photograph Log

Photograph 11. 32.5 to 35 ft bgs formation samples from EW-01.	
Photograph 12. 35-37.5 ft bgs formation samples from EW-01.	

Photograph 13.

37.5-40 ft bgs formation samples from EW-01.

Photograph 14.

42.5-45 ft bgs formation samples from EW-01.

Photograph Log

Photograph 15.

45 to 47.5 ft bgs formation samples from EW-01.

Photograph 16.

47.5 to 50 ft bgs formation samples from EW-01.

Photograph Log

Photograph 17. 50 to 52.8 ft bgs formation samples from EW-01.	
Photograph 18. 50-55 ft bgs formation samples from EW-01 dry.	

Photograph Log

Photograph 19. 0-7.5 ft bgs from EW-02	
Photograph 20. 7.5 to 10 ft bgs from EW-02	

Photograph Log

Photograph 21. 10-12.5 ft bgs formation samples from EW-02	
Photograph 22. 12.5-15 ft bgs formation samples from EW-02	

Photograph Log

Photograph 23. 15 to 17.5 ft bgs formation samples from EW-02	
Photograph 24. 17.5 to 20 ft bgs from EW-02	

Photograph Log

Photograph 25. 20-22.5 ft bgs from EW-02	
Photograph 26. 22.5-25 ft bgs from EW-02	

Photograph Log

Photograph 27. 25 to 27.5 ft bgs from EW-02	
Photograph 28. 27.5 to 30 ft bgs from formation sample of EW-02	

Photograph Log

Photograph 29.

30 to 32.5 ft bgs formation sample from EW-02

Photograph 30.

32.5 to 35 ft bgs from EW-02

Photograph 31.

35 to 37.5 ft bgs from EW-02

Photograph Log

Photograph 32. 37.5 to 40 ft bgs from EW-02	
Photograph 33. 42.5-45 ft bgs formation sample from EW-02	

Photograph Log

Photograph 34. 47-49 ft bgs formation sample from EW-02	
Photograph 35. 49 to 51 ft bgs from EW-02	

Photograph Log

Photograph 36. 51-53 ft bgs formation sample from EW-02	
Photograph 37. 53 to 55 ft bgs from EW-02	

Photograph Log

Photograph 38. 0-7.5 ft bgs formation sample from EW-03	
Photograph 39. 7.5-10 ft bgs formation sample from EW-03	

Photograph 40.

10-12.5 ft bgs formation sample from EW-03

Photograph 41.

12.5-15 ft bgs formation sample from EW-03

Photograph Log

Photograph 42. 15-17.5 ft bgs formation sample from EW-03	
Photograph 43. 22.5-25 ft bgs formation sample from EW-03	

Photograph Log

Photograph 44. 25-27 ft bgs formation sample from EW-03	
Photograph 45. 30-32.5 ft bgs formation sample from EW-03	

Photograph Log

Photograph 46. 32.5-35 ft bgs formation sample from EW-03	
Photograph 47. 35 to 37.5 ft bgs formation sample from EW-03	

Photograph Log

Photograph 48. 40-42.5 ft bgs formation sample from EW-03	
Photograph 49. 42.5-45 ft bgs formation sample from EW-03	

Photograph Log

Photograph 50. 45 to 47.5 ft bgs formation sample from EW-03	
Photograph 51. 47.5-50 ft bgs formation sample from EW-03	

Photograph Log

Photograph 52. 50 to 52.5 ft bgs formation sample from EW-03	
Photograph 53. 52.5 to 55 ft bgs formation sample from EW-03	

Photograph Log

Photograph 54. 10 to 12.5 ft bgs formation sample from EW-04	
Photograph 55. 15 to 17.5 ft bgs formation sample from EW-04	

Photograph Log

Photograph 56. 17.5-19 ft bgs formation sample from EW-04	
Photograph 57. 19 to 20 ft bgs formation sample from EW-04	

Photograph Log

Photograph 58. 20 to 22.5 ft bgs formation sample from EW-04	
Photograph 59. 22.5 to 24 ft bgs formation sample from EW-04	

Photograph 60. 25 to 28 ft bgs formation sample from EW-04	
Photograph 61. 28 to 30 ft bgs formation sample from EW-04	

Photograph Log

Photograph 62.

5-7.5 ft bgs formation sample from INV-01

Photograph 63.

7.5 to 10 ft bgs formation sample from INV-01

Photograph Log

Photograph 64. 10 to 12.5 ft bgs formation sample from INV-01	
Photograph 65. 15 to 17.5 ft bgs formation sample from INV-01	

Photograph Log

Photograph 66.

17.5 to 20 ft bgs formation sample from INV-01

Photograph 67.

20 to 22.5 ft bgs formation sample from INV-01

Photograph 68. 22.5 to 25 ft bgs formation sample from INV-01	
Photograph 69. 24 to 26 ft bgs formation sample from INV-01	

Photograph Log

Photograph 70. 27 to 29 ft bgs formation sample from INV-01	
Photograph 71. 29 to 31 ft bgs formation sample from INV-01	

Photograph Log

Photograph 72. 33.5 to 36 ft bgs formation sample from INV-01	

Photograph 73. 36-38.5 ft bgs formation sample from INV-01	

Photograph 74. 41 to 42.5 ft bgs formation sample from INV-01	

Photograph Log

Photograph 75. 42.5 to 45 ft bgs formation sample from INV-01	
Photograph 76. 45 to 47.5 ft bgs formation sample from INV-01	
Photograph 77. 47.5 to 50 ft bgs formation sample from INV-01	

Photograph Log

Photograph 78. 5 to 7.5 ft bgs formation sample from INV-02	
Photograph 79. 7.5-10 ft bgs formation sample from INV-02	
Photograph 80. 10 to 12.5 ft bgs formation sample from INV-02	

Photograph Log

Photograph 81. 12 to 14.5 ft bgs formation sample from INV-02	

Photograph 82. 14-16 ft bgs formation sample from INV-02	

Photograph 83. 16 to 18 ft bgs formation sample from INV-02	

Photograph Log

Photograph 84.

18-20 ft bgs formation sample from INV-02

Photograph 85.

20-22 ft bgs formation sample from INV-02

Photograph 86.

22 to 24 ft bgs formation sample from INV-02

Photograph Log

Photograph 87. 24-26 ft bgs formation sample from INV-02	
Photograph 88. 28 to 30.5 ft bgs formation sample from INV-02	
Photograph 89. 30.5 to 33 ft bgs formation sample from INV-02	

Photograph Log

Photograph 90. 33 to 34 ft bgs formation sample from INV-02	
Photograph 91. 34-36 ft bgs formation sample from INV-02	
Photograph 92. 36 to 37.5 ft bgs formation sample from INV-02	

Photograph Log

Photograph 93.

37.5 to 40 ft bgs formation sample from INV-02

Photograph 94.

40-42.5 ft bgs formation sample from INV-02

Photograph 95.

42.5-45 ft bgs formation sample from INV-02

Photograph Log

Photograph 96. 45-47.5 ft bgs formation sample from INV-02	

Photograph 97. 47.5-50 ft bgs formation sample from INV-02	

Photograph 98. 50-52.5 ft bgs formation sample from INV-02	

Photograph Log

Photograph 99. 5 to 7.5 ft bgs formation sample from INV-03	
Photograph 100. 7.5-10 ft bgs formation sample from INV-03	
Photograph 101. 10 to 12 ft bgs formation sample from INV-03	

Photograph Log

Photograph 102. 12-15 ft bgs formation sample from INV-03	
Photograph 103. 15-17.5 ft bgs formation sample from INV-03	
Photograph 104. 17.5-20 ft bgs formation sample from INV-03	

Photograph 105. 20-22.5 ft bgs formation sample from INV-03	
Photograph 106. 22.5-25 ft bgs formation sample from INV-03	
Photograph 107. 27.5-30 ft bgs formation sample from INV-03	

Photograph Log

Photograph 108. 30-32.5 ft bgs formation sample from INV-03	
Photograph 109. 32.5-34 ft bgs formation sample from INV-03	
Photograph 110. 36-38 ft bgs formation sample from INV-03	

Photograph Log

Photograph 111.

38-40 ft bgs formation sample from INV-03

Photograph 112.

40-42.5 ft bgs formation sample from INV-03

Photograph 113.

45-48 ft bgs formation sample from INV-03

Photograph Log

Photograph 114.

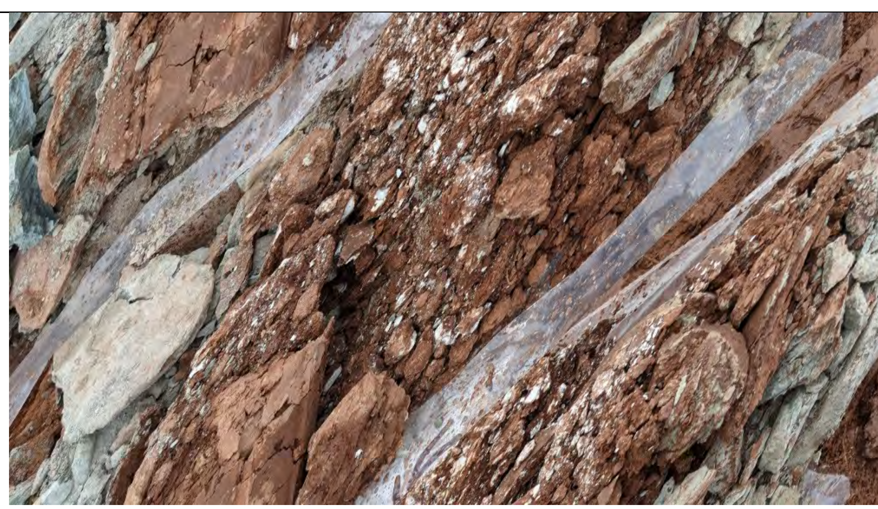
48-50 ft bgs formation sample from INV-03

Photograph 115.

Close up of 12 ft bgs formation sample from INV-03

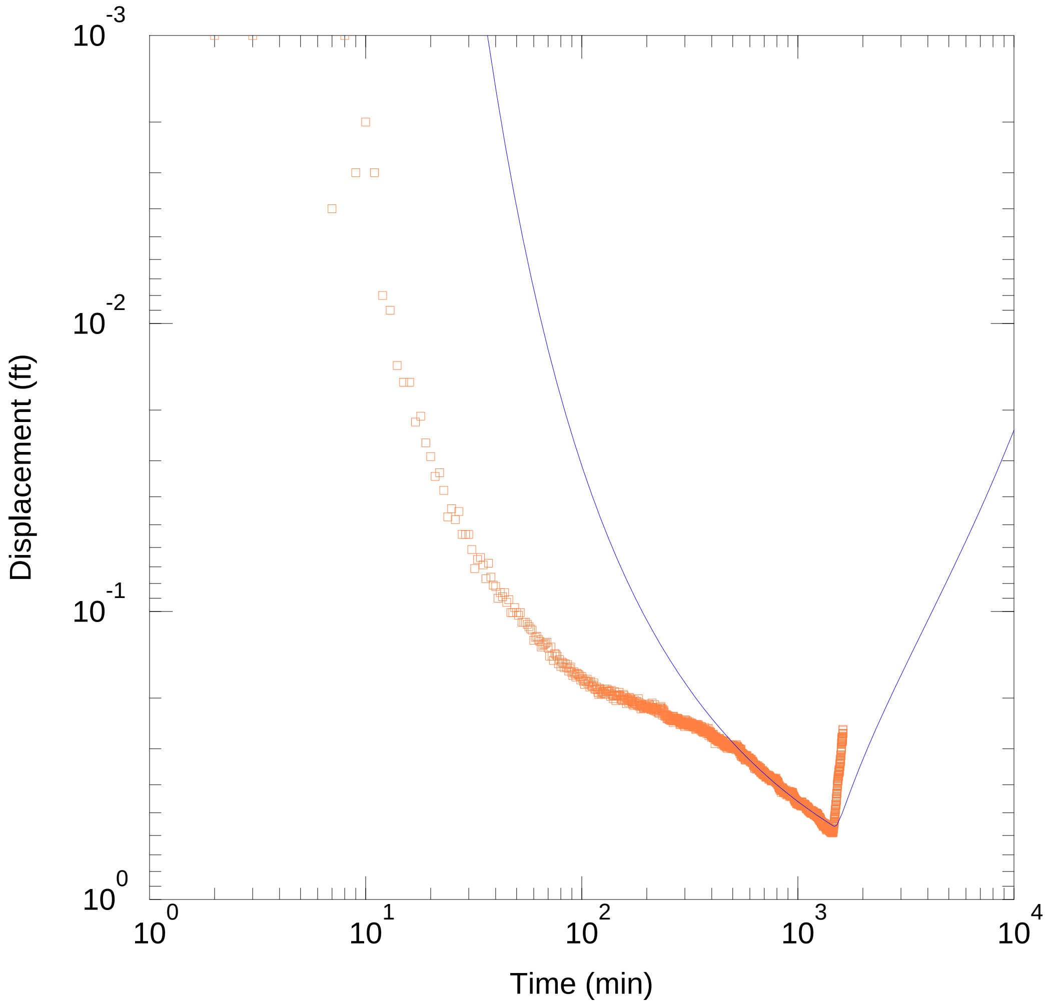
Photograph 116.

Close up of 15 ft bgs formation sample from INV-03



Appendix C

AQTESOLV Analyses



EW-01 CRT - F-92 DRAWDOWN

Data Set: G:\...\EW01 CRT - F-92only_DD_Hantush.aqt
Date: 02/22/21 Time: 12:40:44

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-01
Test Date: 1/6/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-01	669561.94	1429449.21

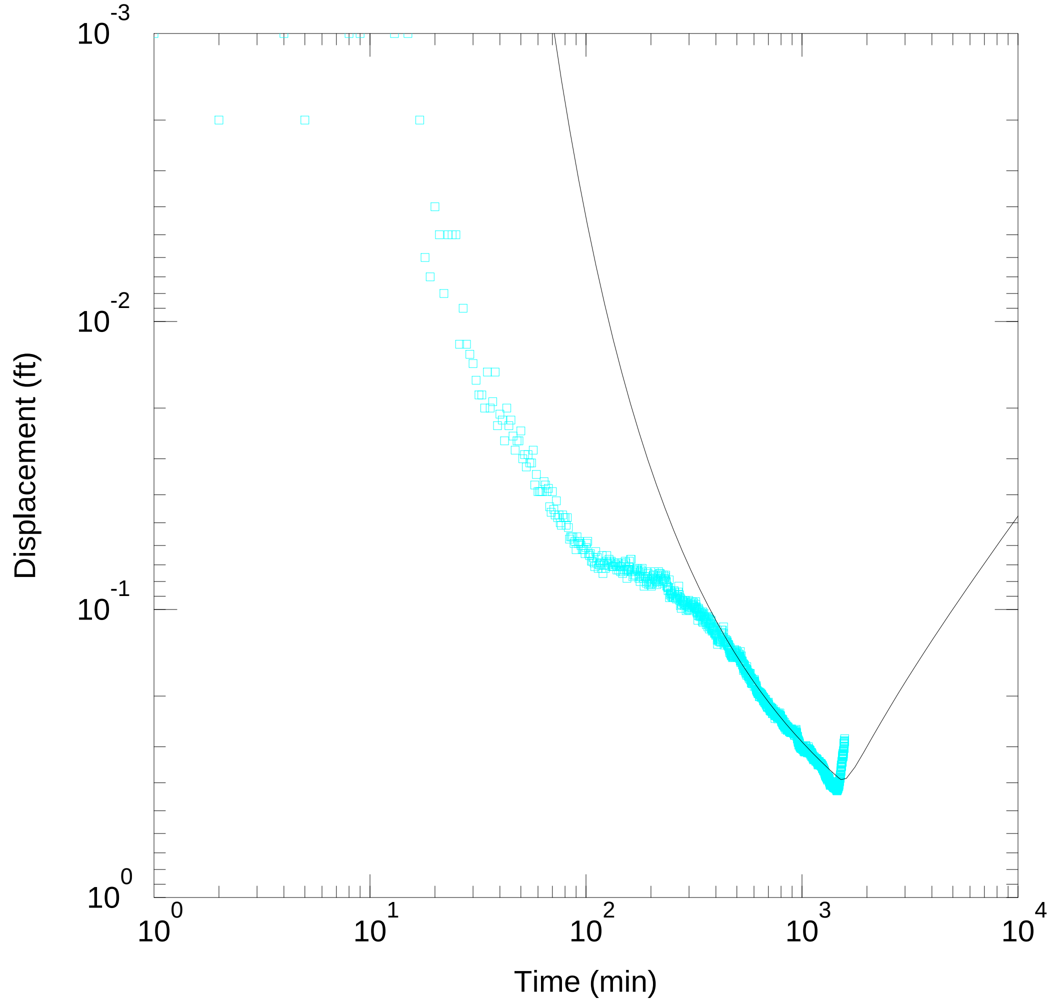
Observation Wells

Well Name	X (ft)	Y (ft)
F-92	669626.79	1429350.87

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 70.23 ft^2/day
r/B = 0.2239
b = 26. ft
S = 0.00215
Kz/Kr = 0.01



EW-01 CRT - EW-02 DRAWDOWN

Data Set: G:\...\EW01 CRT - EW-02only_DD_Hantush.aqt
Date: 02/22/21 Time: 12:39:19

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-01
Test Date: 1/6/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-01	669561.94	1429449.21

Observation Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

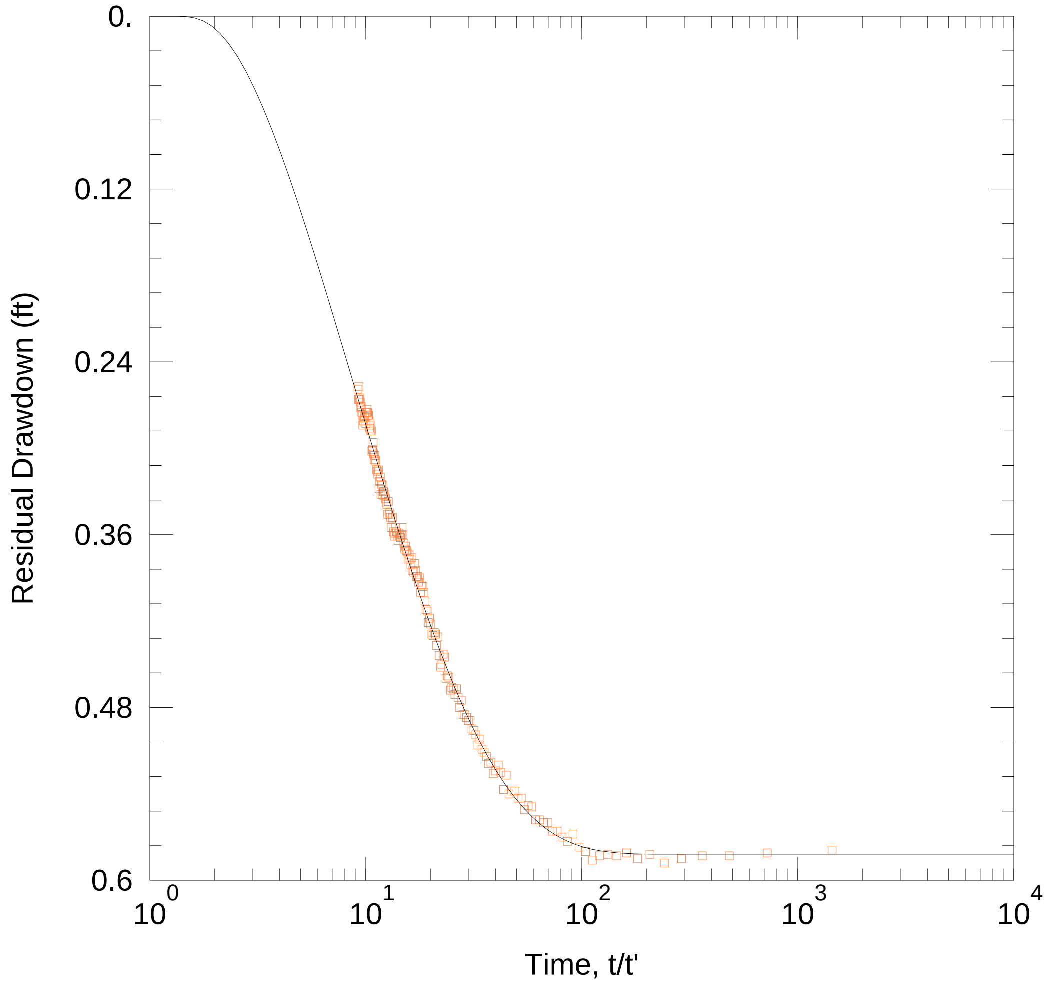
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 73.12 ft^2/day
r/B = 1.0E-5
b = 26. ft

S = 0.001587
Kz/Kr = 0.01



EW01 CRT - F92 RESIDUAL DRAWDOWN

Data Set: G:\...\EW01 CRT - F92_ResDD_Hantush.aqt
Date: 02/22/21 Time: 12:40:02

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-01
Test Date: 1/6/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-01	669561.94	1429449.21

Observation Wells

Well Name	X (ft)	Y (ft)
F-92	669626.79	1429350.87

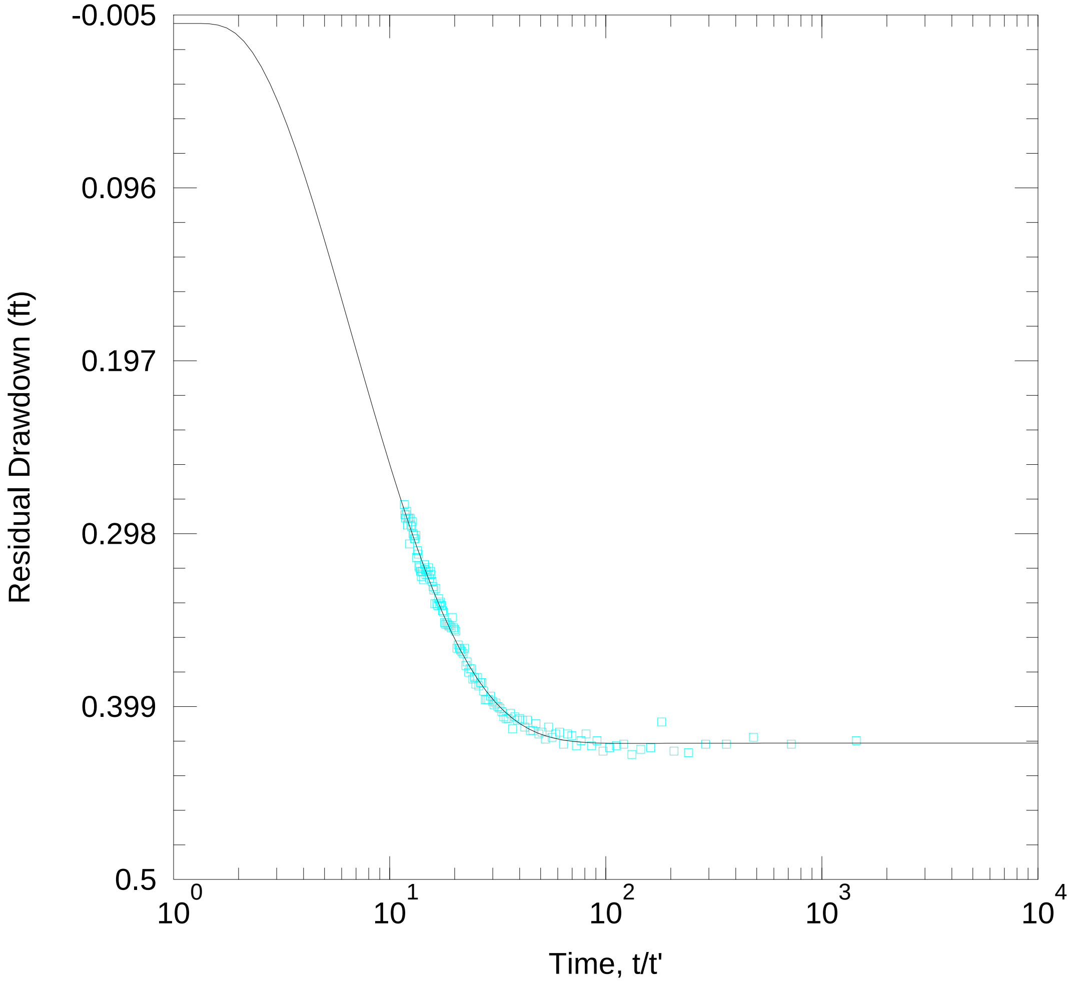
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 68.9 ft^2/day
r/B = 0.524
b = 26. ft

S = 0.0005629
Kz/Kr = 0.01



EW-01 CRT - EW-02 RESIDUAL DRAWDOWN

Data Set: G:\...\EW01 CRT EW-02 Res DD_Hantush.aqt
Date: 02/22/21 Time: 12:41:23

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-01
Test Date: 1/6/21

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-01	669561.94	1429449.21

Observation Wells

Well Name	X (ft)	Y (ft)
□ EW-02	669705.64	1429318.29

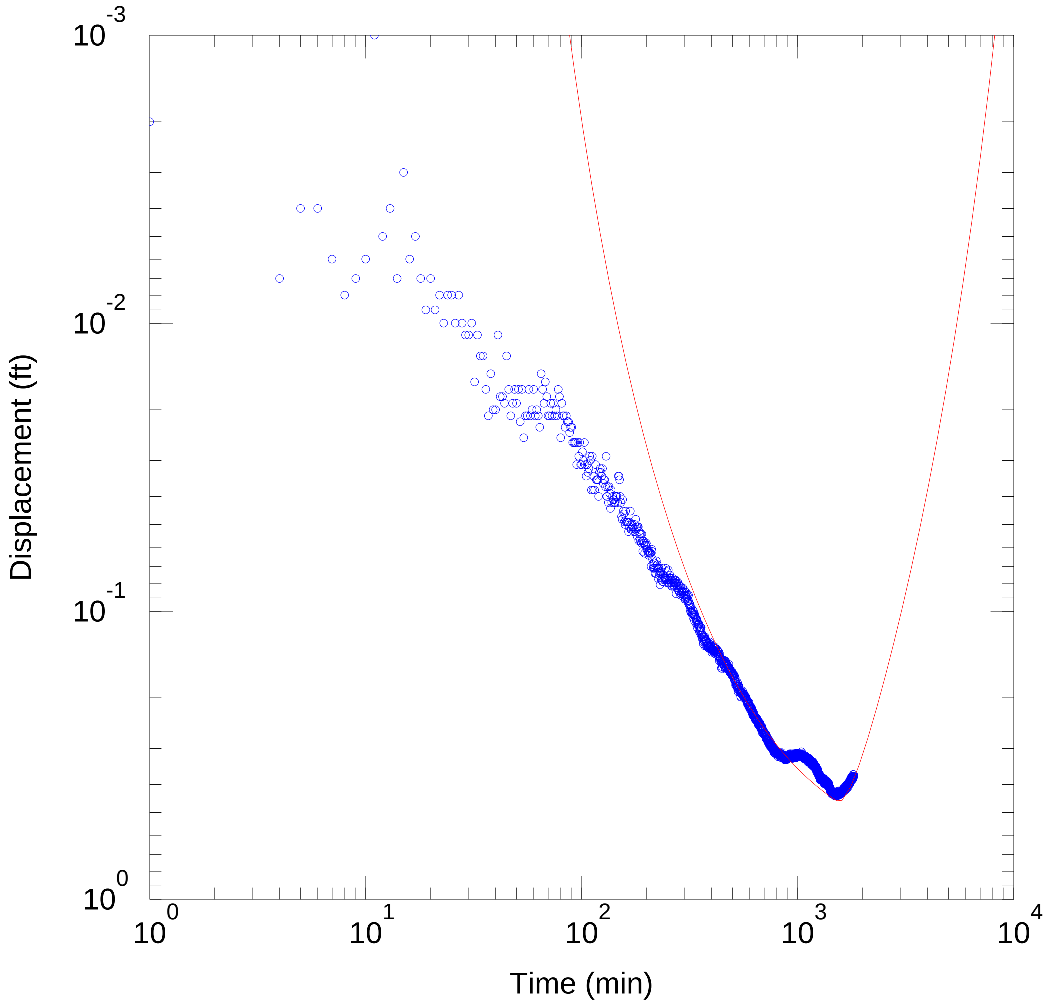
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 63.14 ft^2/day
r/B = 0.7743
b = 26. ft

S = 0.0003861
Kz/Kr = 0.01



EW-02 CRT - MW-66A DRAWDOWN

Data Set: G:\...\EW02 CRT_MW-66A_DD_Hantush.aqt
Date: 02/22/21 Time: 12:45:08

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

AQUIFER DATA

Saturated Thickness: 26. ft
Anisotropy Ratio (Kz/Kr): 0.01
Aquitard Thickness (b'): 1. ft
Aquitard Thickness (b"): 1. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

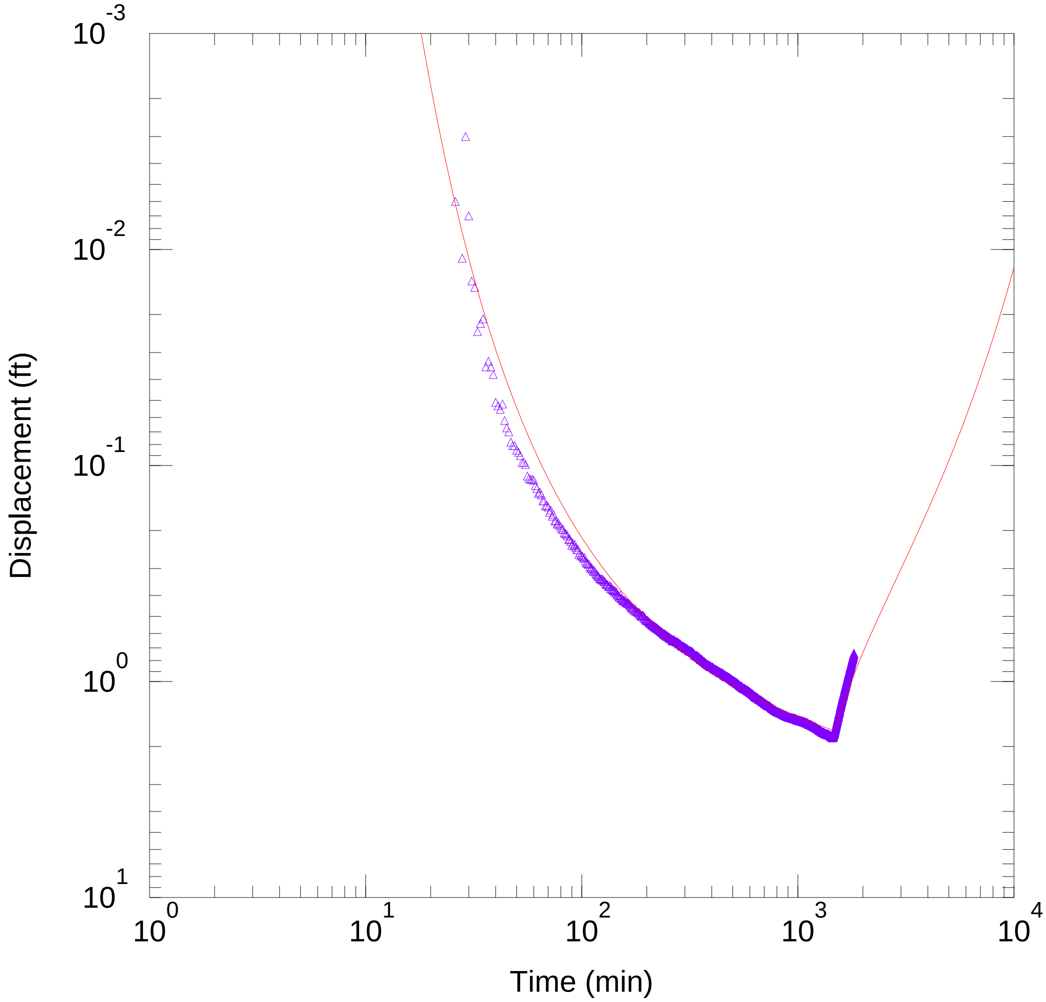
Observation Wells

Well Name	X (ft)	Y (ft)
○ MW-66A	669178.5	1429134.06

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush

T = 108.9 ft^2/day
S = 0.000397
r/B' = 1.122
ß' = 0.1738
r/B" = 1.75
ß" = 0.



EW-02 CRT - EW-01 DRAWDOWN

Data Set: G:\...\EW02 CRT_EW-01_DD_Hantush.aqt
Date: 02/22/21 Time: 12:42:37

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

Observation Wells

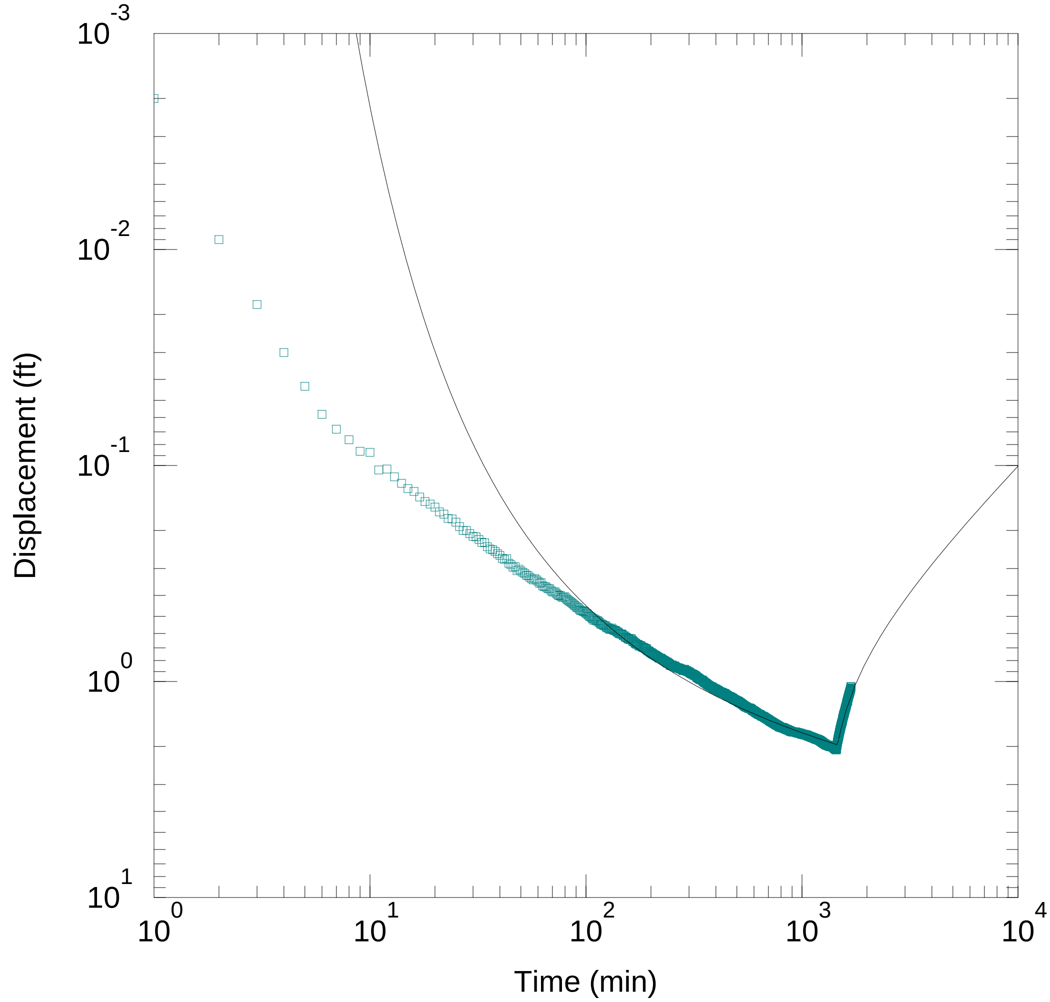
Well Name	X (ft)	Y (ft)
△ EW-01	669561.94	1429449.21

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 109.4 ft^2/day
r/B = 0.3036
b = 26. ft

S = 0.0007222
Kz/Kr = 0.01



EW-02 CRT - EW-03 DRAWDOWN

Data Set: G:\...\EW02 CRT_EW-03_DD_Hantush.aqt
Date: 02/22/21 Time: 12:43:16

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

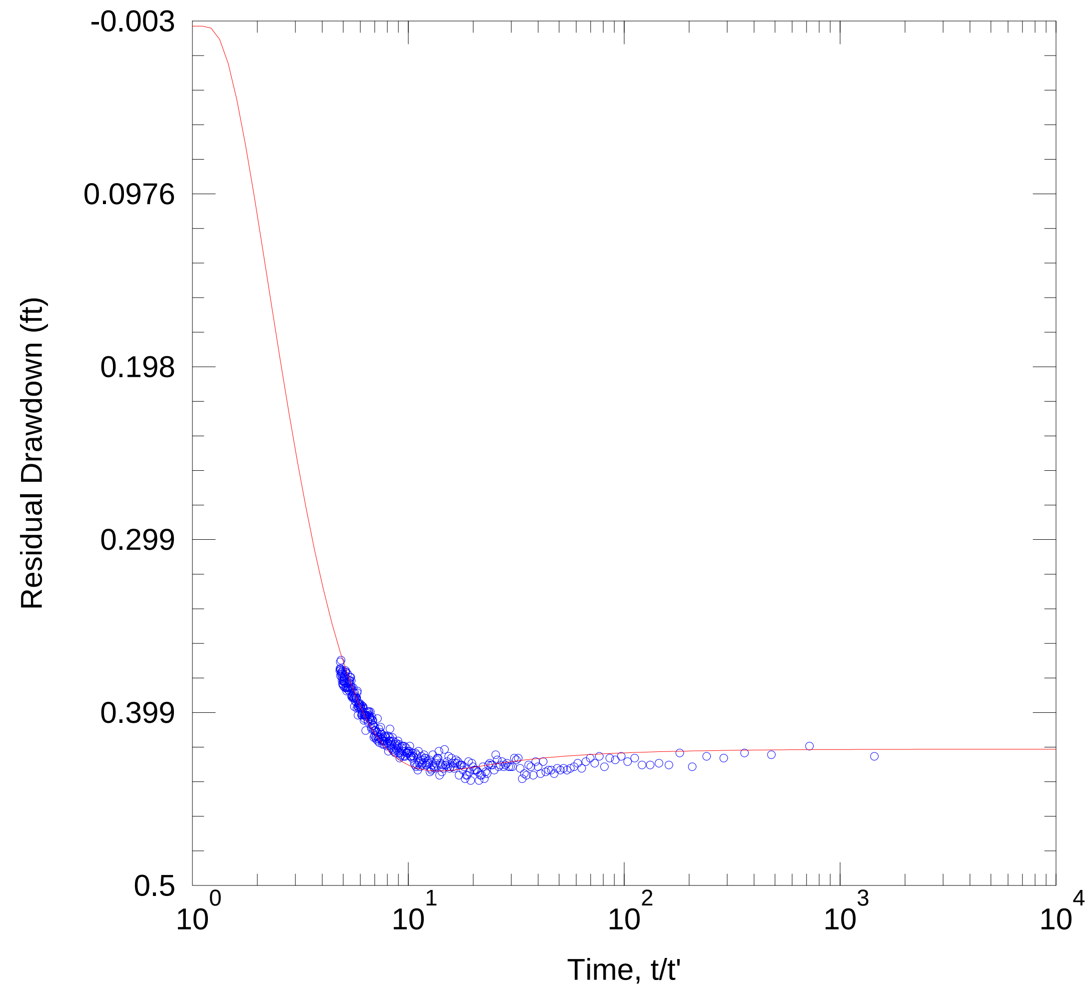
Observation Wells

Well Name	X (ft)	Y (ft)
□ EW-03	669767.09	1429260.98

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 141.3 ft^2/day
S = 0.00228
r/B = 1.0E-5
Kz/Kr = 0.01
b = 26. ft



EW-02 CRT - MW-66A RESIDUAL DRAWDOWN

Data Set: G:\...\EW02 CRT_MW-66A_Residual DD_Hantush.aqt
Date: 02/22/21 Time: 12:45:22

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

AQUIFER DATA

Saturated Thickness: 26. ft
Anisotropy Ratio (Kz/Kr): 0.01
Aquitard Thickness (b'): 1. ft
Aquitard Thickness (b"): 1. ft

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

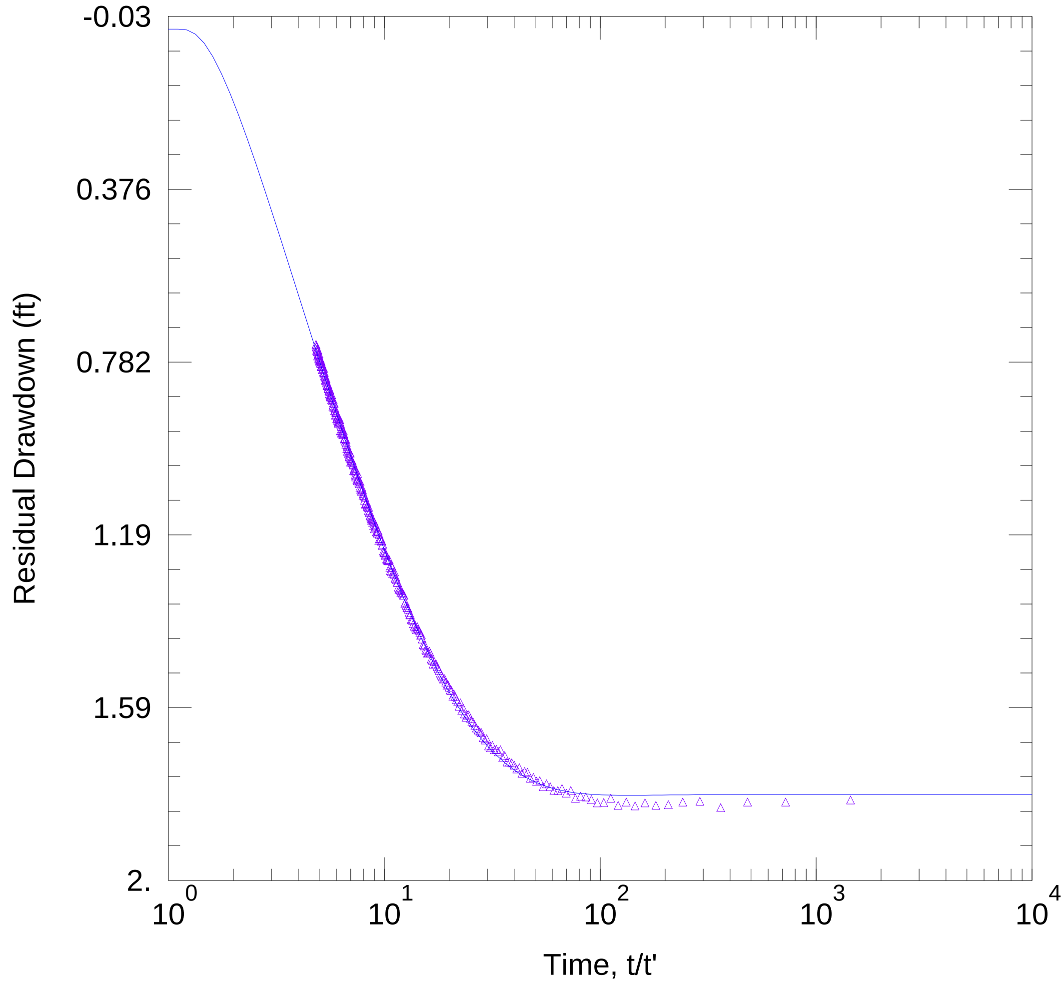
Observation Wells

Well Name	X (ft)	Y (ft)
○ MW-66A	669178.5	1429134.06

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush

T = 114.8 ft^2/day
S = 0.0004199
r/B' = 1.122
ß' = 0.1738
r/B" = 1.75
ß" = 0.



EW-02 CRT - EW-01 RESIDUAL DRAWDOWN

Data Set: G:\...\EW02 CRT_EW-01_Residual DD_Hantush.aqt
Date: 02/22/21 Time: 12:44:24

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

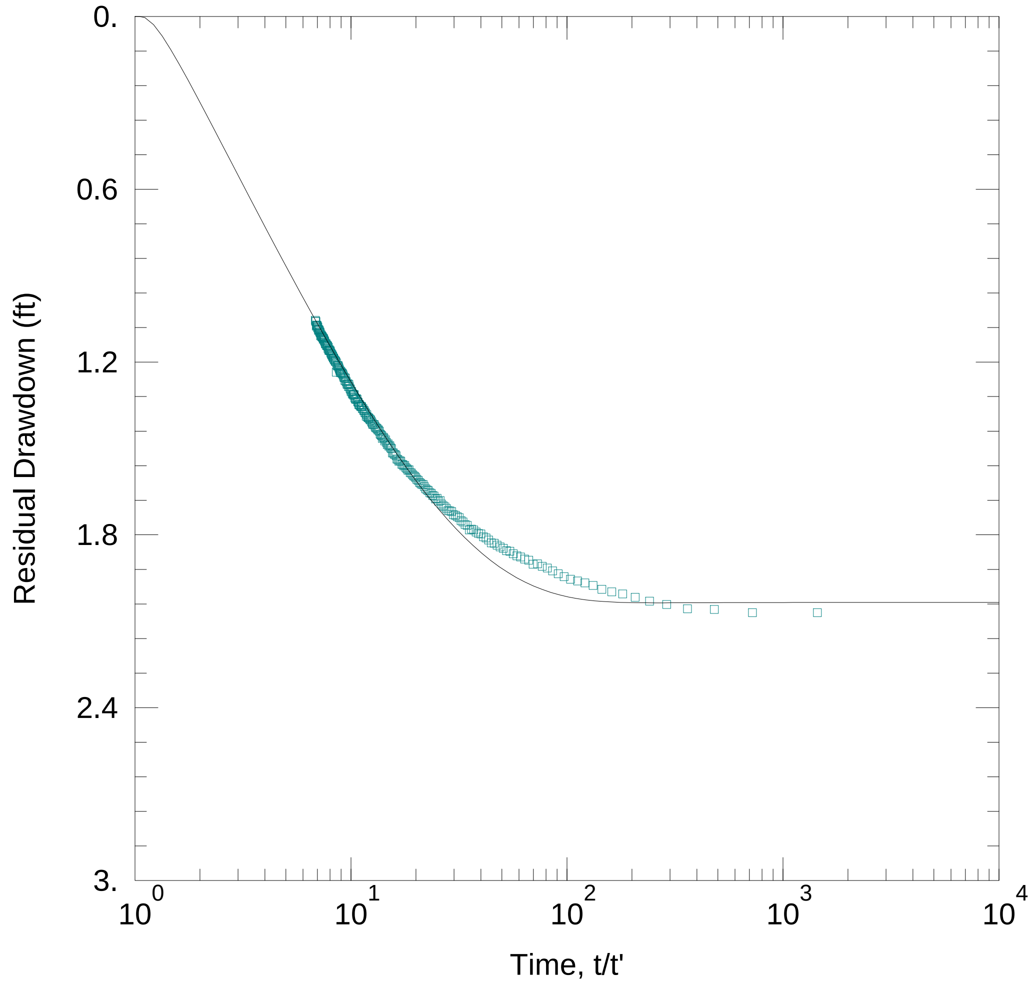
Observation Wells

Well Name	X (ft)	Y (ft)
△ EW-01	669561.94	1429449.21

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 101.6 ft^2/day
S = 0.0004712
r/B = 0.3981
Kz/Kr = 0.01012
b = 26. ft



EW-02 CRT - EW-03 RESIDUAL DRAWDOWN

Data Set: G:\...\EW02 CRT_EW-03_Residual DD_Hantush.aqt
Date: 03/03/21 Time: 13:46:25

PROJECT INFORMATION

Company: Wood
Client: APS Cholla
Location: APS Cholla PP
Test Well: EW-02 CRT
Test Date: 1/7/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-02	669705.64	1429318.29

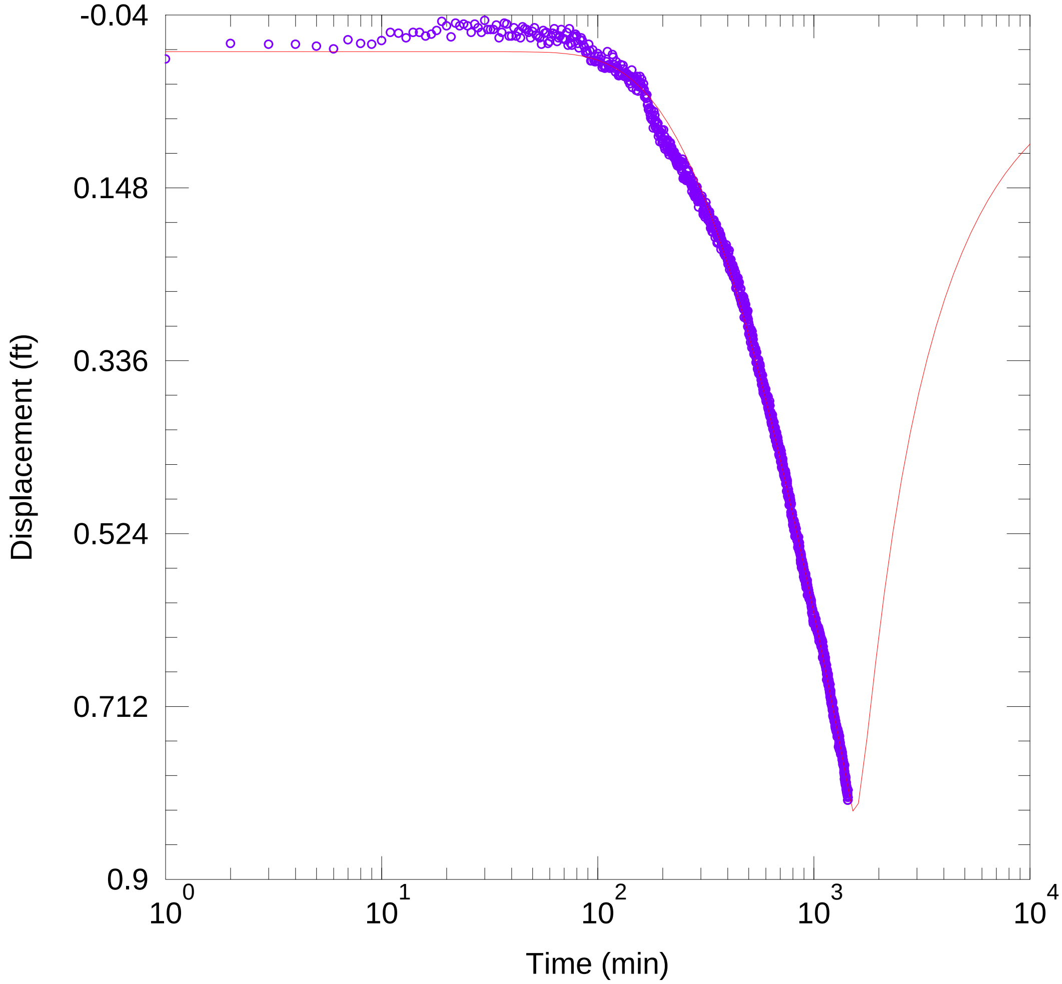
Observation Wells

Well Name	X (ft)	Y (ft)
□ EW-03	669767.09	1429260.98

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 135. ft^2/day
r/B = 0.1663
b = 26. ft
S = 0.00171
Kz/Kr = 0.01



EW-03 CRT - EW-01 DRAWDOWN

Data Set: G:\...\EW-03 CRT - EW-01only_DD_Hantush.aqt
Date: 02/22/21 Time: 12:34:19

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

Observation Wells

Well Name	X (ft)	Y (ft)
∘ EW-01	669561.94	1429449.21

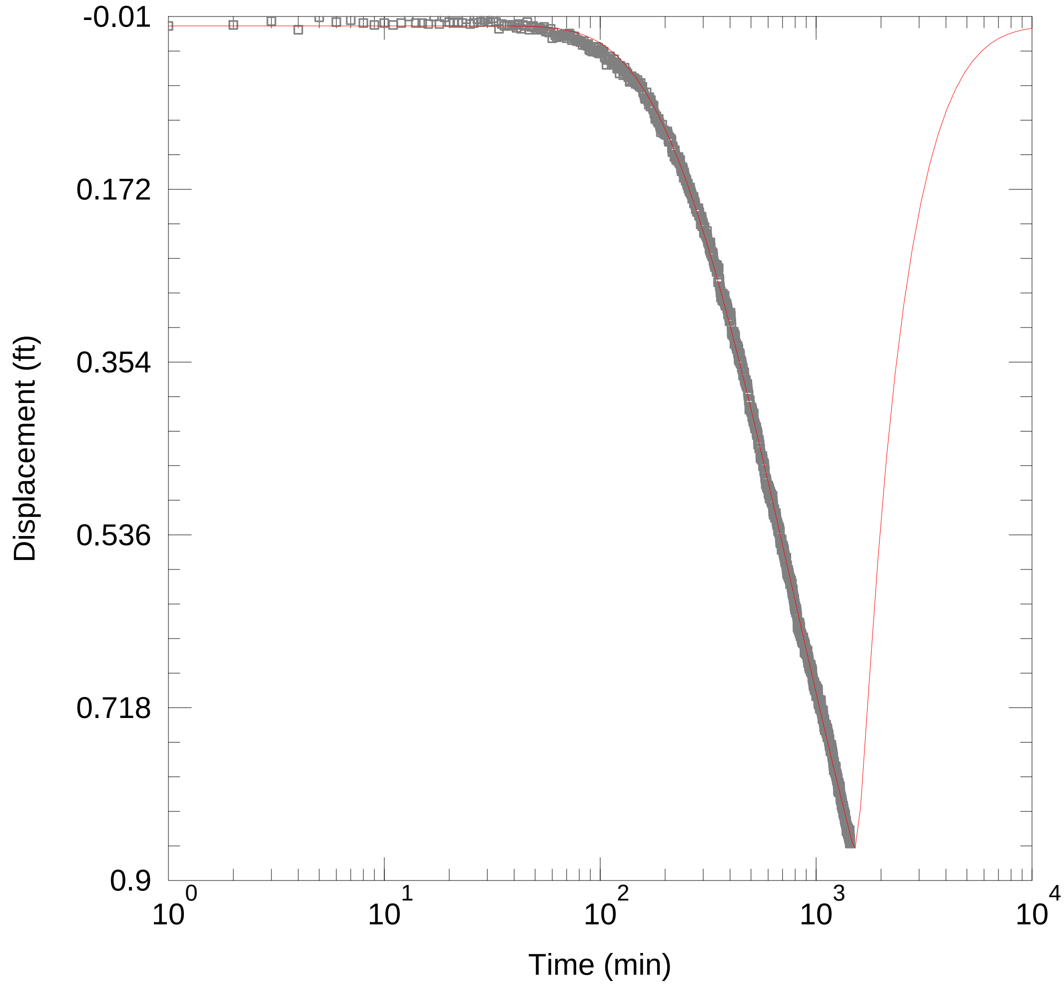
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 115.2 ft^2/day
r/B = 1.0E-5
b = 26.5 ft

S = 0.001219
Kz/Kr = 0.001023



EW-03 CONSTANT-RATE TEST - GSX-2 DRAWDOWN

Data Set: G:\...\EW-03 CRT - GSX-2only_DD.aqt
Date: 02/22/21 Time: 12:35:39

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

Observation Wells

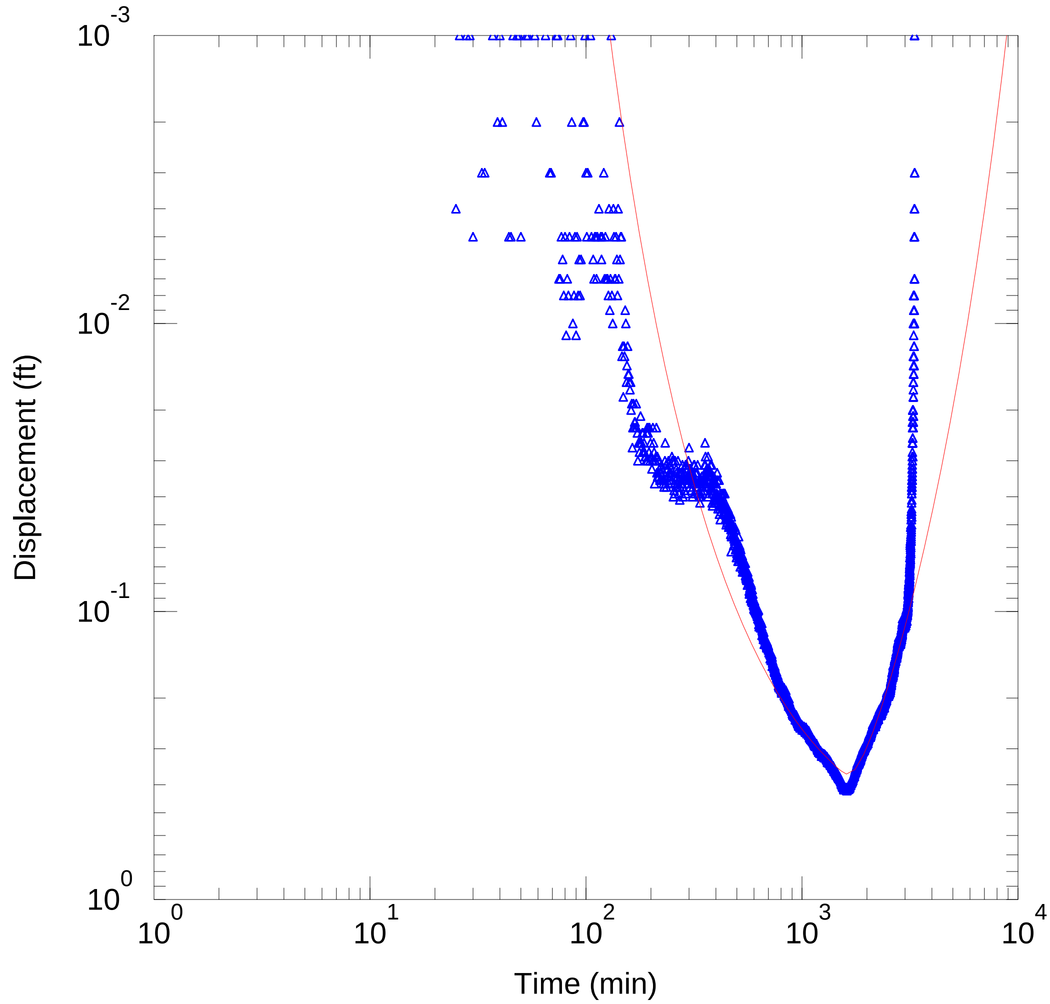
Well Name	X (ft)	Y (ft)
□ GSX-2	669814.37	1429221.23

SOLUTION

Aquifer Model: Leaky Solution Method: Hantush-Jacob

T = 89.81 ft^2/day
r/B = 0.667
b = 26.5 ft

S = 0.017
Kz/Kr = 0.001023



EW-03 CRT - MW-66A DRAWDOWN

Data Set: G:\...\EW-03 CRT - MW66Aonly_DD_Hantush.aqt
Date: 02/22/21 Time: 12:36:57

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

Observation Wells

Well Name	X (ft)	Y (ft)
MW-66A	669178.5	1429134.06

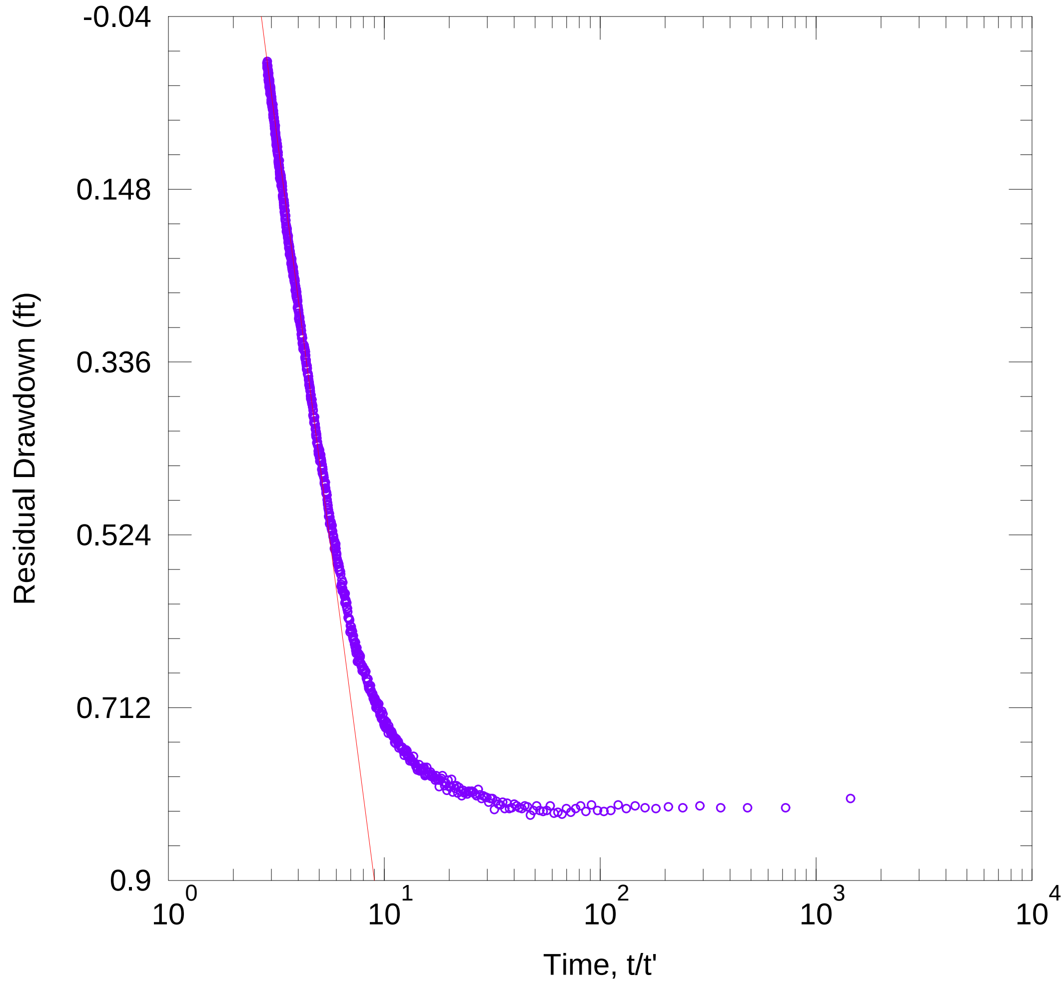
SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 86.83 ft^2/day
r/B = 1.255
b = 26.5 ft

S = 0.0004254
Kz/Kr = 0.001023



EW-03 CRT - EW-01 RESIDUAL DRAWDOWN

Data Set: G:\...\EW-03 CRT - EW-01only_ResDD.aqt
Date: 02/22/21 Time: 12:33:21

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

AQUIFER DATA

Saturated Thickness: 26.5 ft Anisotropy Ratio (Kz/Kr): 0.001023

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

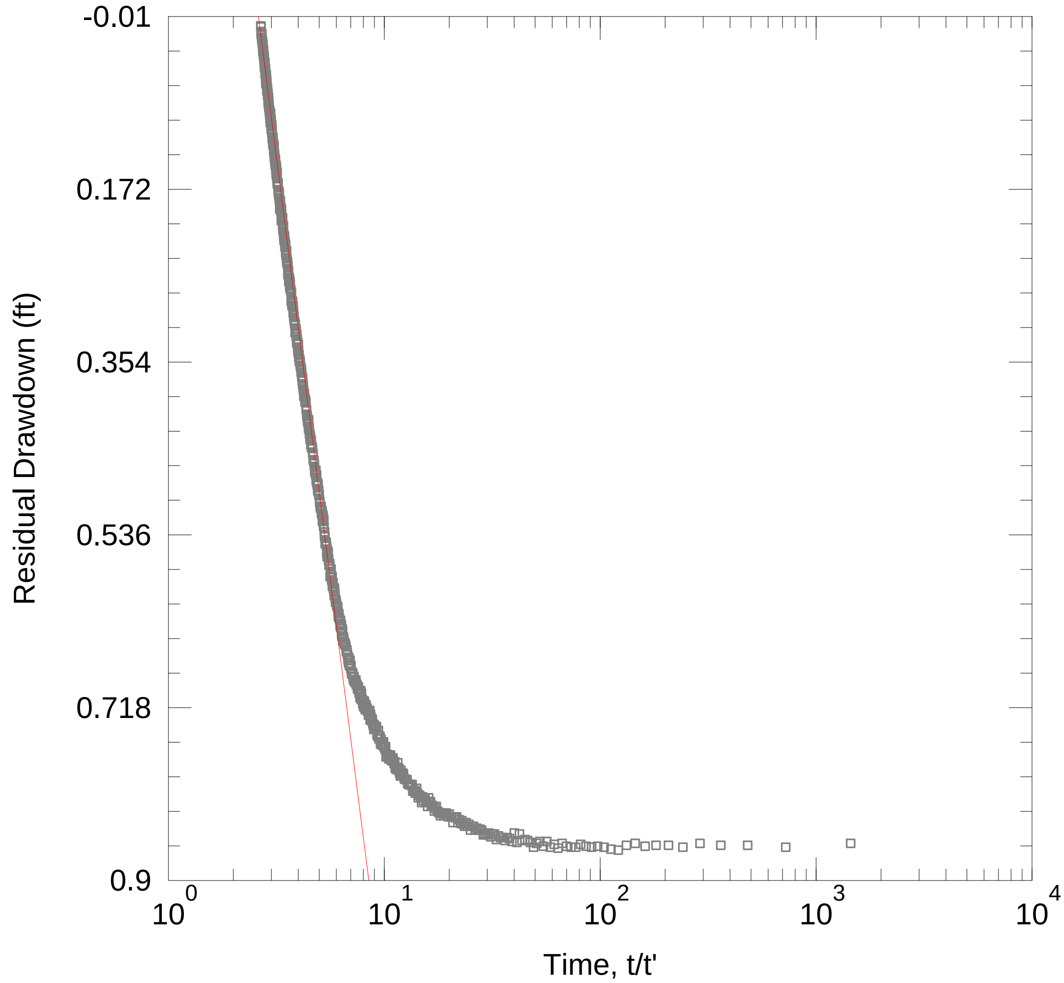
Observation Wells

Well Name	X (ft)	Y (ft)
○ EW-01	669561.94	1429449.21

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)

T = 98.36 ft^2/day S/S' = 2.836



EW-03 CONSTANT-RATE TEST - GSX-2 RESIDUAL DRAWDOWN

Data Set: G:\...\EW-03 CRT - GSX-2only_ResDD.aqt
Date: 02/22/21 Time: 12:32:12

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

AQUIFER DATA

Saturated Thickness: 26.5 ft Anisotropy Ratio (Kz/Kr): 0.001023

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

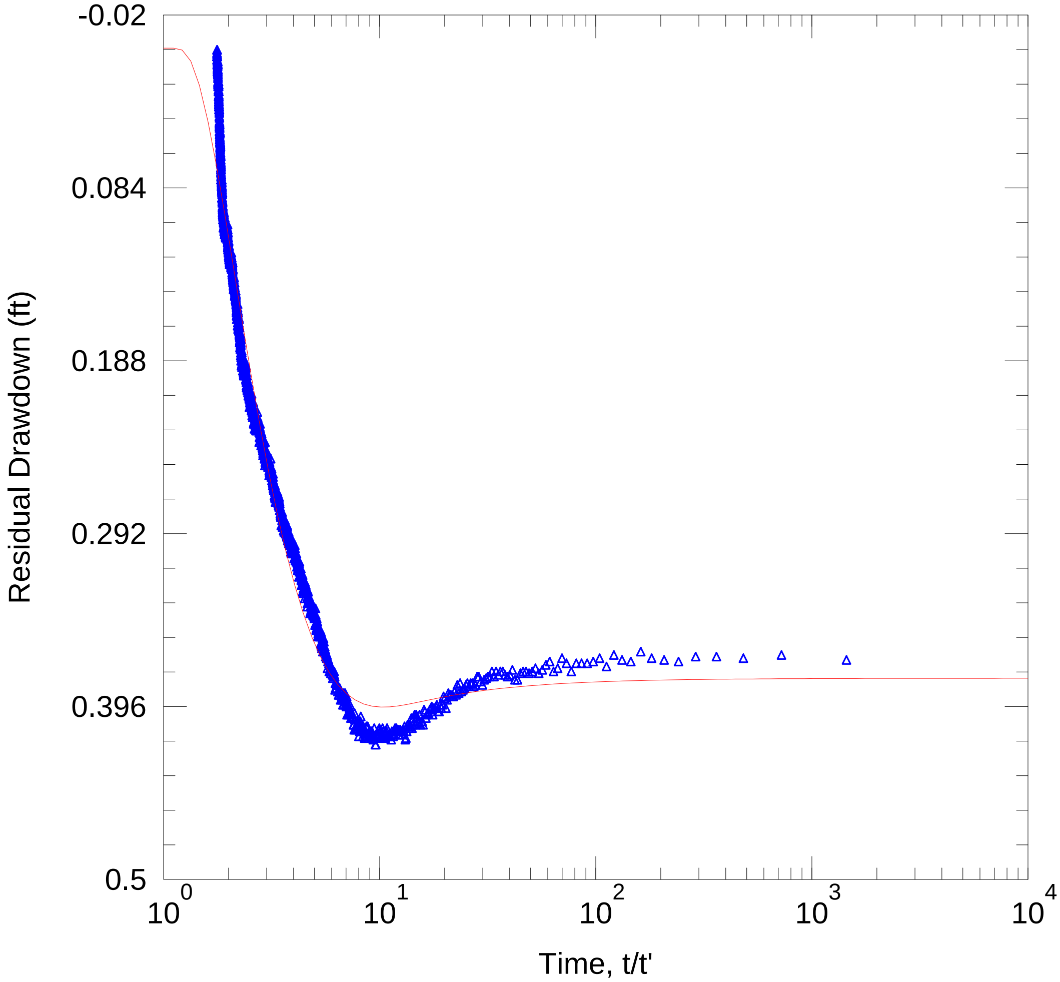
Observation Wells

Well Name	X (ft)	Y (ft)
□ GSX-2	669814.37	1429221.23

SOLUTION

Aquifer Model: Confined Solution Method: Theis (Recovery)

T = 99.09 ft^2/day S/S' = 2.649



EW-03 CRT - MW-66A RESIDUAL DRAWDOWN

Data Set: G:\...\EW-03 CRT - MW66Aonly_ResDD.aqt
Date: 02/22/21 Time: 12:31:16

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-03
Test Date: 1/9/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-03	669767.09	1429260.98

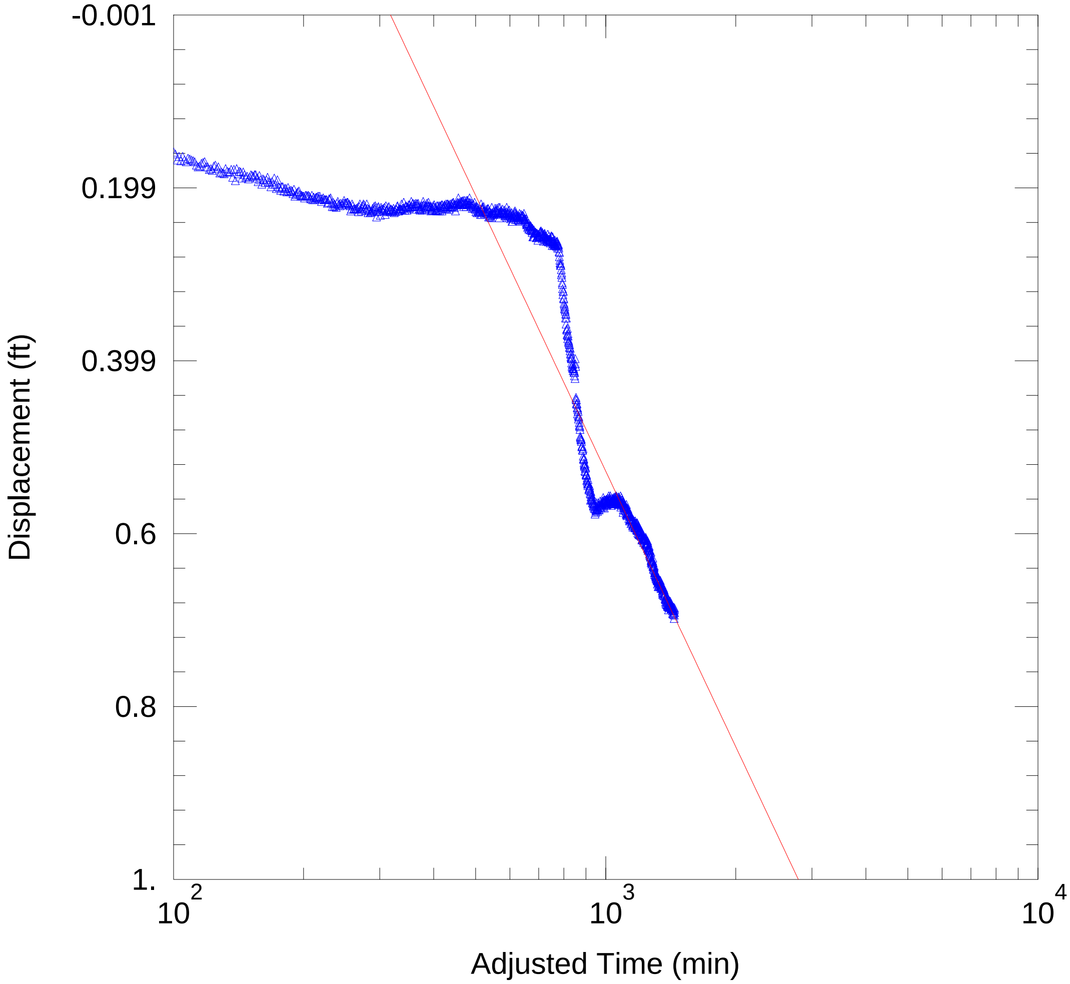
Observation Wells

Well Name	X (ft)	Y (ft)
△ MW-66A	669178.5	1429134.06

SOLUTION

Aquifer Model: Leaky
Solution Method: Hantush-Jacob

T = 85.39 ft^2/day
S = 0.0003723
r/B = 1.255
Kz/Kr = 0.001023
b = 26.5 ft



EW-04 CRT - W-123 DRAWDOWN

Data Set: G:\...\EW-04 CRT - W-123_DD_CJ.aqt
Date: 03/04/21 Time: 09:42:04

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-04
Test Date: 1/4/2021

AQUIFER DATA

Saturated Thickness: 16. ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-04	669906.4	1429150.44

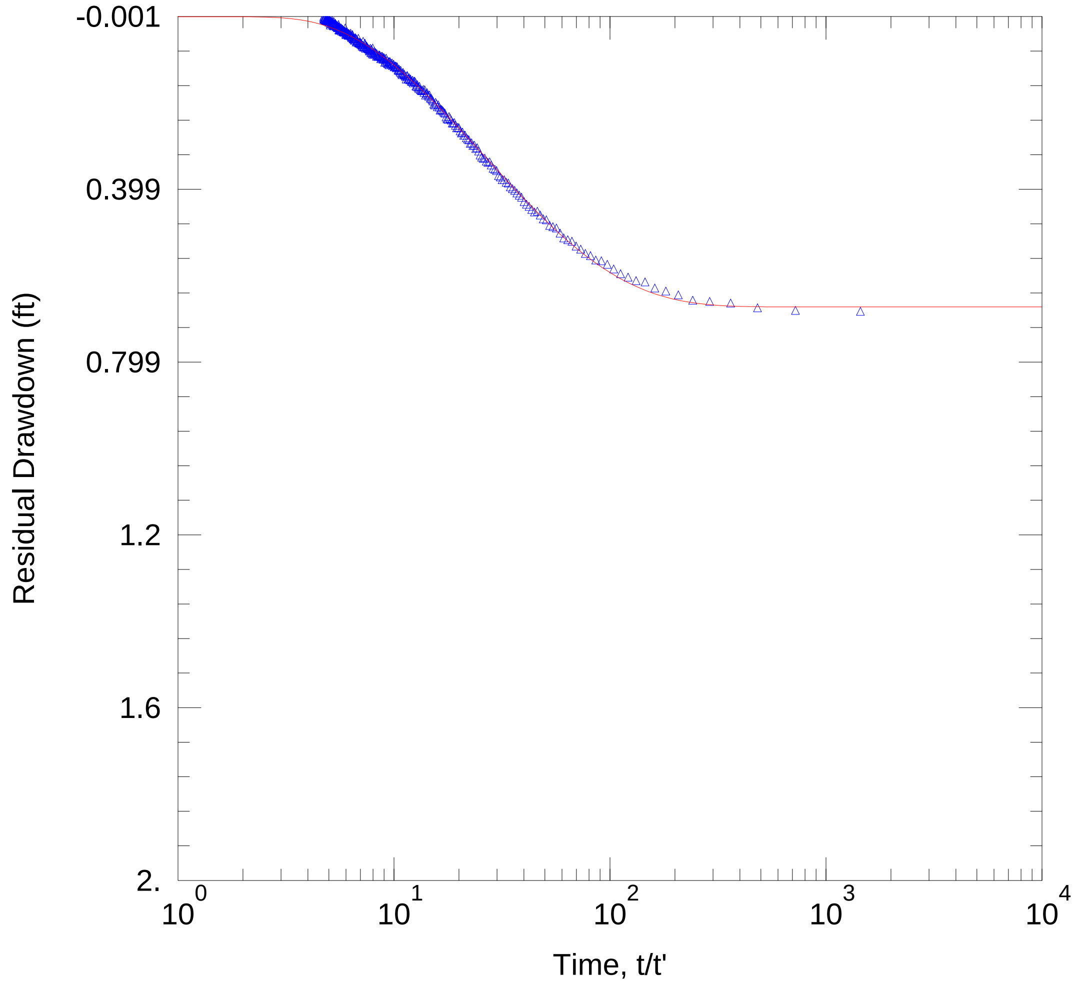
Observation Wells

Well Name	X (ft)	Y (ft)
W-123	669925.23	1429141.07

SOLUTION

Aquifer Model: Confined Solution Method: Cooper-Jacob

T = 129.7 ft^2/day S = 0.1456



EW-04 CRT - W-123 RESIDUAL DRAWDOWN

Data Set: G:\...\EW-04_W-123_ResidualDD_Hantush.aqt
Date: 03/03/21 Time: 12:04:36

PROJECT INFORMATION

Company: Wood PLC
Client: Arizona Public Service
Project: 1420182040
Location: Navajo County, AZ
Test Well: EW-04
Test Date: 1/4/2021

WELL DATA

Pumping Wells

Well Name	X (ft)	Y (ft)
EW-04	669906.4	1429150.44

Observation Wells

Well Name	X (ft)	Y (ft)
△ W-123	669925.23	1429141.07

SOLUTION

Aquifer Model: Leaky

Solution Method: Hantush-Jacob

T = 148.9 ft^2/day
r/B = 0.5556
b = 12.59 ft

S = 0.01401
Kz/Kr = 0.02239

Appendix D

Analytical Laboratory Report

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-156051-1
Laboratory SDG: APS Cholla Power Plant (FAP)
Client Project/Site: CCR Groundwater Monitoring

For:
Arizona Public Service Company
County Road 6675, Stn 4915
Fruitland, New Mexico 87416

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
2/4/2021 4:46:50 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E2	Concentration estimated. Analyte exceeded calibration range. Reanalysis not performed due to sample matrix.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.
N1	See case narrative.

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D2	Sample required dilution due to high concentration of analyte.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Job ID: 550-156051-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-156051-1

Comments
No additional comments.

Receipt
The samples were received on 1/11/2021 8:14 AM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.3º C.

HPLC/IC
Method 300.0: A matrix spike / matrix spike duplicate (MS/MSD) was not prepared for Anions by method EPA 300.0 associated with analytical batch 550-231854 due to an analyst error. The results for the associated laboratory control sample/ laboratory control sample duplicate (LCS/LCSD) were within acceptance limits which may be used to verify batch accuracy and precision. As such, these data have been reported and qualified with N1 flags.

EW04-010521 (550-156051-1) and EW02-018521 (550-156051-2)

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-230325 contained Molybdenum above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-156051-1	EW04-010521	Water	01/05/21 19:38	01/11/21 08:14	
550-156051-2	EW02-018521	Water	01/08/21 20:19	01/11/21 08:14	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: EW04-010521

Lab Sample ID: 550-156051-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	3.9		0.40	0.047	mg/L	1		300.0	Total/NA
Chloride	4900	D2	200	52	mg/L	100		300.0	Total/NA
Sulfate	3000	D2	100	21	mg/L	50		300.0	Total/NA
Potassium	29		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	770		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.089	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	200		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.43		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0043		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0024		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.48	B3	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	51		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	51		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	12000	D2	200	200	mg/L	1		SM 2540C	Total/NA

Client Sample ID: EW02-018521

Lab Sample ID: 550-156051-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	1.6		0.40	0.047	mg/L	1		300.0	Total/NA
Chloride	4000	D2 N1	40	10	mg/L	20		300.0	Total/NA
Sulfate	3300	D2	100	21	mg/L	50		300.0	Total/NA
Potassium	11		0.50	0.17	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.37		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	330		2.0	0.044	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.62		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total Recoverable
Arsenic	0.0034		0.00050	0.00025	mg/L	1		200.8 LL	Total/NA
Cobalt	0.0011		0.00050	0.000063	mg/L	1		200.8 LL	Total/NA
Molybdenum	0.038	B3	0.00050	0.00020	mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0	6.0	mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100	100	mg/L	1		SM 2540C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: EW04-010521

Lab Sample ID: 550-156051-1
Date Collected: 01/05/21 19:38
Matrix: Water
Date Received: 01/11/21 08:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	3.9		0.40	0.047	mg/L			01/27/21 06:11	1
Chloride	4900	D2	200	52	mg/L			02/02/21 23:51	100
Sulfate	3000	D2	100	21	mg/L			01/21/21 06:35	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	29		0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:27	1
Calcium	770		2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:27	1
Iron	0.089	E4	0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:41	1
Magnesium	200		2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:27	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.43		0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 15:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0043		0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 12:13	1
Cobalt	0.0024		0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:53	1
Molybdenum	0.48	B3	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	51		6.0	6.0	mg/L			01/13/21 11:37	1
Bicarbonate Alkalinity as CaCO3	51		6.0	6.0	mg/L			01/13/21 11:37	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:37	1
Total Dissolved Solids	12000	D2	200	200	mg/L			01/12/21 10:03	1

Client Sample ID: EW02-018521

Lab Sample ID: 550-156051-2
Date Collected: 01/08/21 20:19
Matrix: Water
Date Received: 01/11/21 08:14

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	1.6		0.40	0.047	mg/L			01/21/21 08:24	1
Chloride	4000	D2 N1	40	10	mg/L			01/30/21 03:41	20
Sulfate	3300	D2	100	21	mg/L			01/21/21 08:52	50

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	11		0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:31	1
Calcium	730		2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:31	1
Iron	0.37		0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:45	1
Magnesium	330		2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:31	1

Method: 200.7 Rev 4.4 - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.62		0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 15:09	1

Client Sample ID: EW02-018521
Date Collected: 01/08/21 20:19
Date Received: 01/11/21 08:14

Lab Sample ID: 550-156051-2
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0034**		0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 12:15	1
Cobalt	**0.0011**		0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:55	1
Molybdenum	**0.038**	**B3**	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:55	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			01/13/21 11:53	1
Bicarbonate Alkalinity as CaCO3	**150**		6.0	6.0	mg/L			01/13/21 11:53	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:53	1
Total Dissolved Solids	**11000**	**D2**	100	100	mg/L			01/12/21 10:03	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-230935/31
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/21/21 01:06	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/21/21 01:06	1

Lab Sample ID: LCS 550-230935/32
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.12		mg/L		103	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-230935/33
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.15		mg/L		104	90 - 110	1	20
Sulfate	20.0	20.8		mg/L		104	90 - 110	1	20

Lab Sample ID: 550-156250-A-4 MS
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.67		4.00	4.73		mg/L		101	80 - 120
Sulfate	260	E2 M3	20.0	264	E2 M3	mg/L		37	80 - 120

Lab Sample ID: 550-156250-A-4 MSD
Matrix: Water
Analysis Batch: 230935

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.67		4.00	4.89		mg/L		105	80 - 120	3	20
Sulfate	260	E2 M3	20.0	264	E2 M3	mg/L		39	80 - 120	0	20

Lab Sample ID: MB 550-231716/2
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/26/21 19:40	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/26/21 19:40	1

Lab Sample ID: LCS 550-231716/5
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.03		mg/L		101	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: LCSD 550-231716/6
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	4.04		mg/L		101	90 - 110	0	20
Sulfate			20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-155697-A-1 MS ^10
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	1.9	E4	40.0	43.0	D1	mg/L		103	80 - 120
Sulfate	1200	D2 M3	200	1420	D2 M3	mg/L		90	80 - 120

Lab Sample ID: 550-155697-A-1 MSD ^10
Matrix: Water
Analysis Batch: 231716

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	1.9	E4	40.0	42.2	D1	mg/L		101	80 - 120	2	20
Sulfate	1200	D2 M3	200	1410	D2 M3	mg/L		85	80 - 120	1	20

Lab Sample ID: MB 550-231854/29
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			01/30/21 00:29	1
Chloride	ND	E8	2.0	0.52	mg/L			01/30/21 00:29	1
Sulfate	ND	E8	2.0	0.43	mg/L			01/30/21 00:29	1

Lab Sample ID: LCS 550-231854/30
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride			4.00	3.95		mg/L		99	90 - 110
Chloride			20.0	18.7		mg/L		94	90 - 110
Sulfate			20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-231854/54
Matrix: Water
Analysis Batch: 231854

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride			4.00	3.99		mg/L		100	90 - 110	1	20
Chloride			20.0	18.2		mg/L		91	90 - 110	3	20
Sulfate			20.0	18.5		mg/L		93	90 - 110	9	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-232140/4
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Fluoride	ND	E8	0.40	0.047	mg/L			02/02/21 14:02	1
Chloride	ND	E8	2.0	0.52	mg/L			02/02/21 14:02	1
Sulfate	ND	E8	2.0	0.43	mg/L			02/02/21 14:02	1

Lab Sample ID: LCS 550-232140/7
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	4.00	4.37		mg/L		109	90 - 110
Chloride	20.0	22.0		mg/L		110	90 - 110
Sulfate	20.0	21.6		mg/L		108	90 - 110

Lab Sample ID: LCSD 550-232140/8
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	4.00	4.35		mg/L		109	90 - 110	0	20
Chloride	20.0	22.0		mg/L		110	90 - 110	0	20
Sulfate	20.0	21.7		mg/L		109	90 - 110	0	20

Lab Sample ID: 550-156083-F-11 MS
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	ND	E8	4.00	4.54		mg/L		114	80 - 120
Chloride	1.3	E4	20.0	23.8		mg/L		112	80 - 120
Sulfate	1.4	E4	20.0	23.4		mg/L		110	80 - 120

Lab Sample ID: 550-156083-F-11 MSD
Matrix: Water
Analysis Batch: 232140

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	ND	E8	4.00	4.60		mg/L		115	80 - 120	1	20
Chloride	1.3	E4	20.0	24.1		mg/L		114	80 - 120	1	20
Sulfate	1.4	E4	20.0	23.7		mg/L		111	80 - 120	1	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-230118/1-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Potassium	ND	E8	0.50	0.17	mg/L		01/12/21 09:08	01/13/21 21:04	1
Calcium	ND	E8	2.0	0.013	mg/L		01/12/21 09:08	01/13/21 21:04	1
Magnesium	ND	E8	2.0	0.044	mg/L		01/12/21 09:08	01/13/21 21:04	1

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-230118/1-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230118

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		01/12/21 09:08	01/14/21 15:18	1

Lab Sample ID: LCS 550-230118/2-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	20.0	18.3		mg/L		92	85 - 115
Calcium	21.0	19.6		mg/L		93	85 - 115
Magnesium	21.0	19.3		mg/L		92	85 - 115

Lab Sample ID: LCS 550-230118/2-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.983		mg/L		98	85 - 115

Lab Sample ID: LCSD 550-230118/3-A
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	20.0	18.7		mg/L		94	85 - 115	2	20
Calcium	21.0	20.1		mg/L		96	85 - 115	2	20
Magnesium	21.0	19.6		mg/L		93	85 - 115	2	20

Lab Sample ID: LCSD 550-230118/3-A
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.00		mg/L		100	85 - 115	2	20

Lab Sample ID: 550-156062-G-1-A MS
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Potassium	8.4		20.0	28.0		mg/L		98	70 - 130
Calcium	150		21.0	169	M3	mg/L		82	70 - 130
Magnesium	38		21.0	56.6		mg/L		90	70 - 130

Lab Sample ID: 550-156062-G-1-A MS
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.18		1.00	1.21		mg/L		103	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-156062-G-1-B MSD
Matrix: Water
Analysis Batch: 230330

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Potassium	8.4		20.0	28.3		mg/L		99	70 - 130	1	20
Calcium	150		21.0	172	M3	mg/L		93	70 - 130	1	20
Magnesium	38		21.0	57.2		mg/L		93	70 - 130	1	20

Lab Sample ID: 550-156062-G-1-B MSD
Matrix: Water
Analysis Batch: 230435

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230118

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.18		1.00	1.22		mg/L		104	70 - 130	1	20

Lab Sample ID: MB 280-523632/1-A
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		01/18/21 08:00	01/19/21 14:45	1

Lab Sample ID: LCS 280-523632/2-A
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.00		mg/L		100	90 - 112

Lab Sample ID: 280-144537-F-1-B MS
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Matrix Spike
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.25		1.00	1.28		mg/L		103	70 - 130

Lab Sample ID: 280-144537-F-1-C MSD
Matrix: Water
Analysis Batch: 524080

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total Recoverable
Prep Batch: 523632

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.25		1.00	1.27		mg/L		102	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-230094/1-A
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230094

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND	E8	0.00050	0.000063	mg/L		01/12/21 06:57	01/13/21 19:17	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		01/12/21 06:57	01/13/21 19:17	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-230094/1-A
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 230094

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		01/12/21 06:57	01/14/21 11:41	1

Lab Sample ID: LCS 550-230094/2-A
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.100	0.101		mg/L		101	85 - 115
Molybdenum	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCS 550-230094/2-A
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.103		mg/L		103	85 - 115

Lab Sample ID: LCSD 550-230094/3-A
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.100	0.0985		mg/L		98	85 - 115	2	20
Molybdenum	0.100	0.102		mg/L		102	85 - 115	0	20

Lab Sample ID: LCSD 550-230094/3-A
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.102		mg/L		102	85 - 115	1	20

Lab Sample ID: 550-155849-G-1-A MS
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	ND	E8	0.100	0.0963		mg/L		96	70 - 130
Molybdenum	0.00098		0.100	0.107		mg/L		106	70 - 130

Lab Sample ID: 550-155849-G-1-A MS
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0077		0.100	0.112		mg/L		104	70 - 130

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-155849-G-1-B MSD
Matrix: Water
Analysis Batch: 230325

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	ND	E8	0.100	0.0979		mg/L		98	70 - 130	2	20
Molybdenum	0.00098		0.100	0.106		mg/L		105	70 - 130	0	20

Lab Sample ID: 550-155849-G-1-B MSD
Matrix: Water
Analysis Batch: 230389

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 230094

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0077		0.100	0.110		mg/L		102	70 - 130	2	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-230318/5
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Bicarbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Carbonate Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Alkalinity, Phenolphthalein	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1
Hydroxide Alkalinity as CaCO3	ND	E8	6.0	6.0	mg/L			01/13/21 11:29	1

Lab Sample ID: LCS 550-230318/4
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	244		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-230318/17
Matrix: Water
Analysis Batch: 230318

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	246		mg/L		98	90 - 110	1	20

Lab Sample ID: 550-156051-1 DU
Matrix: Water
Analysis Batch: 230318

Client Sample ID: EW04-010521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	51		51.3		mg/L		0	20
Bicarbonate Alkalinity as CaCO3	51		51.3		mg/L		0	20
Carbonate Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20
Alkalinity, Phenolphthalein	ND	E8	ND	E8	mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND	E8	ND	E8	mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-230124/1
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			01/12/21 10:03	1

Lab Sample ID: LCS 550-230124/2
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	928		mg/L		93	90 - 110

Lab Sample ID: LCSD 550-230124/3
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	936		mg/L		94	90 - 110	1	10

Lab Sample ID: 550-156049-A-1 DU
Matrix: Water
Analysis Batch: 230124

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	800		798		mg/L		0.5	10

Lab Sample ID: 550-156051-1 DU
Matrix: Water
Analysis Batch: 230124

Client Sample ID: EW04-010521
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	12000	D2	10800	D2	mg/L		7	10

HPLC/IC

Analysis Batch: 230935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
550-156051-2	EW02-018521	Total/NA	Water	300.0	
550-156051-2	EW02-018521	Total/NA	Water	300.0	
MB 550-230935/31	Method Blank	Total/NA	Water	300.0	
LCS 550-230935/32	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-230935/33	Lab Control Sample Dup	Total/NA	Water	300.0	
550-156250-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-156250-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 231716

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
MB 550-231716/2	Method Blank	Total/NA	Water	300.0	
LCS 550-231716/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-231716/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-155697-A-1 MS ^10	Matrix Spike	Total/NA	Water	300.0	
550-155697-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 231854

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-2	EW02-018521	Total/NA	Water	300.0	
MB 550-231854/29	Method Blank	Total/NA	Water	300.0	
LCS 550-231854/30	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-231854/54	Lab Control Sample Dup	Total/NA	Water	300.0	

Analysis Batch: 232140

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	300.0	
MB 550-232140/4	Method Blank	Total/NA	Water	300.0	
LCS 550-232140/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-232140/8	Lab Control Sample Dup	Total/NA	Water	300.0	
550-156083-F-11 MS	Matrix Spike	Total/NA	Water	300.0	
550-156083-F-11 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 230094

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8	
550-156051-2	EW02-018521	Total/NA	Water	200.8	
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Prep Batch: 230118

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7	
550-156051-2	EW02-018521	Total/NA	Water	200.7	
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 230118 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7	
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 230325

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8 LL	230094
550-156051-2	EW02-018521	Total/NA	Water	200.8 LL	230094
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8 LL	230094
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230094
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230094
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	230094
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	230094

Analysis Batch: 230330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7 Rev 4.4	230118
550-156051-2	EW02-018521	Total/NA	Water	200.7 Rev 4.4	230118
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	230118
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	230118
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	230118

Analysis Batch: 230389

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.8 LL	230094
550-156051-2	EW02-018521	Total/NA	Water	200.8 LL	230094
MB 550-230094/1-A	Method Blank	Total/NA	Water	200.8 LL	230094
LCS 550-230094/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	230094
LCSD 550-230094/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	230094
550-155849-G-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	230094
550-155849-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	230094

Analysis Batch: 230435

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	200.7 Rev 4.4	230118
550-156051-2	EW02-018521	Total/NA	Water	200.7 Rev 4.4	230118
MB 550-230118/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	230118
LCS 550-230118/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	230118
LCSD 550-230118/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-A MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	230118
550-156062-G-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	230118

Prep Batch: 523632

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total Recoverable	Water	200.7	
550-156051-2	EW02-018521	Total Recoverable	Water	200.7	
MB 280-523632/1-A	Method Blank	Total Recoverable	Water	200.7	
LCS 280-523632/2-A	Lab Control Sample	Total Recoverable	Water	200.7	

Metals (Continued)

Prep Batch: 523632 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
280-144537-F-1-B MS	Matrix Spike	Total Recoverable	Water	200.7	
280-144537-F-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7	

Analysis Batch: 524080

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total Recoverable	Water	200.7 Rev 4.4	523632
550-156051-2	EW02-018521	Total Recoverable	Water	200.7 Rev 4.4	523632
MB 280-523632/1-A	Method Blank	Total Recoverable	Water	200.7 Rev 4.4	523632
LCS 280-523632/2-A	Lab Control Sample	Total Recoverable	Water	200.7 Rev 4.4	523632
280-144537-F-1-B MS	Matrix Spike	Total Recoverable	Water	200.7 Rev 4.4	523632
280-144537-F-1-C MSD	Matrix Spike Duplicate	Total Recoverable	Water	200.7 Rev 4.4	523632

General Chemistry

Analysis Batch: 230124

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	SM 2540C	
550-156051-2	EW02-018521	Total/NA	Water	SM 2540C	
MB 550-230124/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-230124/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-230124/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-156049-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	
550-156051-1 DU	EW04-010521	Total/NA	Water	SM 2540C	

Analysis Batch: 230318

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-156051-1	EW04-010521	Total/NA	Water	SM 2320B	
550-156051-2	EW02-018521	Total/NA	Water	SM 2320B	
MB 550-230318/5	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-230318/4	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-230318/17	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-156051-1 DU	EW04-010521	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-156051-1
SDG: APS Cholla Power Plant (FAP)

Client Sample ID: EW04-010521

Date Collected: 01/05/21 19:38
Date Received: 01/11/21 08:14

Lab Sample ID: 550-156051-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		100	232140	02/02/21 23:51	JRP	TAL PHX
Total/NA	Analysis	300.0		50	230935	01/21/21 06:35	JRP	TAL PHX
Total/NA	Analysis	300.0		1	231716	01/27/21 06:11	JRP	TAL PHX
Total Recoverable	Prep	200.7			523632	01/18/21 08:00	MAB	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	524080	01/19/21 15:06	LMT	TAL DEN
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230330	01/13/21 21:27	MGM	TAL PHX
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230435	01/14/21 15:41	MGM	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230325	01/13/21 19:53	ARE	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230389	01/14/21 12:13	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	230318	01/13/21 11:37	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	230124		YET	TAL PHX
					(Start)	01/12/21 10:03		
					(End)	01/13/21 08:50		

Client Sample ID: EW02-018521

Date Collected: 01/08/21 20:19
Date Received: 01/11/21 08:14

Lab Sample ID: 550-156051-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		20	231854	01/30/21 03:41	JRP	TAL PHX
Total/NA	Analysis	300.0		1	230935	01/21/21 08:24	JRP	TAL PHX
Total/NA	Analysis	300.0		50	230935	01/21/21 08:52	JRP	TAL PHX
Total Recoverable	Prep	200.7			523632	01/18/21 08:00	MAB	TAL DEN
Total Recoverable	Analysis	200.7 Rev 4.4		1	524080	01/19/21 15:09	LMT	TAL DEN
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230330	01/13/21 21:31	MGM	TAL PHX
Total/NA	Prep	200.7			230118	01/12/21 09:08	SXF	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	230435	01/14/21 15:45	MGM	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230325	01/13/21 19:55	ARE	TAL PHX
Total/NA	Prep	200.8			230094	01/12/21 06:57	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	230389	01/14/21 12:15	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	230318	01/13/21 11:53	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	230124		YET	TAL PHX
					(Start)	01/12/21 10:03		
					(End)	01/13/21 08:50		

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company — Job ID: 550-156051-1
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (FAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-21
Arizona	State	AZ0713	12-21-21
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-22
Connecticut	State	PH-0686	09-30-20 *
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-08-22
Illinois	NELAP	2000172019-1	04-30-21
Iowa	State	IA#370	12-02-21
Kansas	NELAP	E-10166	04-30-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-31-21
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-21
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-21
North Carolina (WW/SW)	State	358	12-31-21
North Dakota	State	R-034	01-08-21 *
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	12-08-22
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-21 *
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	02-28-21
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
200.7	Preparation, Total Recoverable Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

156051

TestAmerica — THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

TestAmerica Laboratories, Inc.

Client Contact			
Arizona Public Service	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:
4801 Cholla Lake Rd	(602) 250-3608	Lab Contact: Ken Baker	Carrier:
Joseph City, AZ 86032	Analysis Turnaround Time: ☐ CALENDAR DAYS ☑ WORKING DAYS		
(928) 587-0319	TAT if different from Below ______		
Project Name: CCR Groundwater Monitoring	☑ 2 weeks ☐ 1 week		
Site: APS Cholla Power Plant (FAP)	☐ 2 days		
Project #:	☐ 1 day		

COC No: __1__ of __1__ COCs
Sampler:
For Lab Use Only:
Walk-in Client:
Lab Sampling:
Job / SDG No.:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (Ca, Li, Fe, Mg, K)	2320B - All forms of alkalinity	EPA 200.8 - Totals (As, Co, Mo)	SM 2540C (TDS)	Sample Specific Notes:
EW04-010521	1/5/2021	19:38	G	W	2	N	N	X	X	X	X	X	-01 Port sample
EW02-010821	1/8/2021	20:19	G	W	2	N	N	X	X	X	X	X	-02 "
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______								1	4	1	4	1	

550-156051 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd:______ Corr'd:______ Therm ID No.:______

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
(Mari Wvollet)	Wood	1-11-21/08:14			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: E-TA Phx	Date/Time: 1-11-21 8:44

2.3°c

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29623.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State - Arizona		Job #: 550-156051-1
Address: 4955 Yarrow Street,	Due Date Requested: 1/22/2021			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55014797			
Site:	SSOW#:			

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TR ICP Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EW04-010521 (550-156051-1)	1/5/21	19:38 Arizona		Water			X	1	
EW02-018521 (550-156051-2)	1/8/21	20:19 Arizona		Water			X	1	

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*
Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: Ene	Date/Time: 01-11-21 15:35	Company: TA-PHX	Received by: Fedex	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: Jesper Sorensen	Date/Time: 01/12/2021 10:30	Company: ETA DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 0.9, CF:+0.2, IR:9		

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156051-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 156051
List Number: 1
Creator: Gravlin, Andrea

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-156051-1
SDG Number: APS Cholla Power Plant (FAP)

Login Number: 156051
List Number: 2
Creator: Soerensen, Jesper

List Source: Eurofins TestAmerica, Denver
List Creation: 01/12/21 02:05 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix H

Wood Technical Memorandum Documenting the Statistical Analysis of Appendix III Constituent Data Collected for the BAM Through October 2020

Technical Memorandum

To:	Arizona Public Service Company	**File No:**	14-2021-2008
From:	Mari Wuollet	**Reviewed by:**	Maren Henley, PE
Date:	April 12, 2021		

Subject: **CCR GROUNDWATER DETECTION MONITORING**
STATISTICAL ANALYSIS AND RESULTS FOR THE BOTTOM ASH MONOFILL
APPENDIX III CONSTITUENT DATA COLLECTED THROUGH OCTOBER 2020
Arizona Public Service Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Wood Environment and Infrastructure Solutions, Inc.'s (Wood) subcontractor, Geosciences Consulting, LLC (Geosciences Consulting) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (Federal Register, 2018).

The BAM is a Site CCR unit that is currently in the detection monitoring program. The CCR Rule requires routine evaluations of Appendix III constituent data collected from BAM downgradient wells to determine if a statistically significant increase (SSI) over background threshold values (BTVs) has occurred. The statistical evaluation documented herein incorporates Appendix III constituent data collected from BAM downgradient wells MW-59, MW-60, and MW-61 through October 2021.

To address an initial exceedance of the fluoride BTV at MW-60 and MW-61 in May 2020, the previous statistical evaluation for the BAM documented in October 2020 recommended implementing a 1 of 3 resampling strategy to determine if the initial fluoride exceedance was statistically significant (Wood, 2020). The October 2020 sampling event constitutes the first resampling event practicable in the 1 of 3 resampling strategy; results of the resampling are presented in Section 2.0.

The evaluation presented in Attachment A also includes routine updates to interwell BTVs based on groundwater sample data available up to the most recent groundwater sampling event (October 2020). The updated BTVs are shown in Table 1 of Attachment A. The ASD recommended intrawell statistical comparisons for fluoride for monitoring wells MW-60 and MW-61 on the premise of spatial heterogeneity. Attachment A presents an analysis of whether updates to intrawell BTVs are appropriate at this time.

600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100
www.woodplc.com

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation and BTV recalculations conducted by Geosciences Consulting. The results of the evaluation are summarized as follows:

- There are currently no exceedances or SSIs over BTVs for Appendix III constituents at the BAM downgradient wells. This includes the results of resample events at M-60 and M-61 for Fluoride.

- A statistically significant decreasing temporal trend is evident for boron, calcium and pH at MW-60.

- Based on review of the preliminary Exploratory Data Analysis for forthcoming updates to the intrawell BTVs for fluoride, results indicate there is insufficient evidence to conclude the two sample populations are statistically different (2015 to 2017, and 2017 to present) and it is practical to combine more recent sample data with historical data to make the interwell BTVs more representative of future sample values.

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of detection monitoring at a semiannual frequency for Appendix III constituents at the BAM is warranted because there are currently no SSIs over Appendix III constituent BTVs. Wood also recommends trend testing after each monitoring event and updates to the BTVs after 1-2 years of future sampling events.

4.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

United States Environmental Protection Agency (U.S. EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2019. *Alternative Source Demonstration for Fluoride at the BAM.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. August 14, 2019.

Wood, 2020. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the BAM Appendix III Constituent Data Collected Through May 2020*. Arizona Public Service Cholla Power Plant – Navajo County, Arizona. Technical Memorandum dated October 13, 2020.

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: March 31, 2021

Subject: **CCR Groundwater Detection Monitoring**
Statistical Evaluation of October 2020 & Preceding Bottom Ash Monofill Data
Arizona Public Service Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the ongoing statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Bottom Ash Monofill (BAM) located at the Arizona Public Service (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the *Statistical Data Analysis Work Plan* (SDAWP) for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2018; Wood Environment & Infrastructure Solutions, Inc. [Wood], 2018).

The statistical evaluation documented herein incorporates the results of detection monitoring at the BAM through October 2020. The Background Threshold Values (BTVs) in this Tech Memo recognize recommendations put forth in the Alternative Source Demonstration to address historic statistically significant increases in fluoride concentrations over BTVs at the BAM (Wood 2019a, Wood 2019b).

The following sections present data inputs, statistical methods, results and recommendations for the subject analysis.

2.0 DATA INPUTS

The BAM groundwater monitoring well network consists of one background monitoring well (M-54) and three compliance (i.e., downgradient), monitoring wells (M-59, M-60 and M-61). The period of evaluation for this BAM Appendix III constituent statistical analysis ranges from December 2015 through October 2020 and includes the minimum of eight initial, or baseline, sampling rounds and seven subsequent sampling rounds of detection monitoring. Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling).

This data evaluation evaluates 20 samples for boron, calcium, chloride, sulfate and total dissolved solids (TDS) within each compliance monitoring well and 19 samples for pH within each compliance monitoring

PO Box 160362
Sacramento, CA 95816
Tel: 918-809-2634

well. For fluoride, there are 20 samples available for analysis at each monitoring location except for M-61, where there are 21 samples. The sampling rounds of detection monitoring at the BAM occur semi-annually.

Appendix A contains the contents of the ProUCL data upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, Wood. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention, each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0." The detection frequency is 100% for all sample data listed in Appendix A.

3.0 METHODS

The statistical methods and analysis approach used to evaluate BAM Appendix III constituent data are documented in the SDAWP (Wood, 2018) prepared for the site.

Precursor exploratory data analysis (EDA) is necessary to help assure that groundwater sample comparisons to their respective BTVs are valid. EDA includes box and whisker plots generation, goodness of fit testing, Mann-Kendall trend testing, and outlier testing. EDA results are shown in Appendix B.

Table 1 details the not to exceed BTVs and method of calculation for the BAM. Table 1 reflects updates to the interwell BTVs to reflect groundwater samples between December 2015 through October 2020 in addition to recommendations put forth in the 2019 ASD for the BAM (Wood, 2019b).

Updates to intrawell BTVs are important and relevant but need special consideration since they incorporate compliance data and "background", or "baseline", data within the same well to calculate a new BTV. The premise for updating an intrawell BTV is to ensure the "background" or "baseline" statistical population is representative of the future sample population expected from the groundwater monitoring well, assuming no groundwater impact is occurring from the BAM. The US EPA suggests updating intrawell BTVs using the following criteria:

- At least 4 – 8 intrawell compliance samples are available;
- There are no SSI declarations when comparing intrawell compliance samples to the established intrawell BTV; and
- A Student's t-test or Wilcoxon rank-sum test between the intrawell BTV statistical sample population and the intrawell statistical compliance population shows no significant difference ($p < 0.01$).

Provided the US EPA guidance above, preliminary EDA was performed as part of this statistical evaluation to assess if intrawell BTV updates are viable for the BAM.

4.0 RESULTS

Table 2 summarizes: 1) which Appendix III constituents exhibit exceedances above their respective BTVs by compliance well and 2) which constituents exhibit statistically significant temporal trends.

Appendix B and Appendix C contain the raw ProUCL EDA outputs as reference for the following statistical findings:

Monitoring Well M-59. There are no exceedances of Appendix III constituent concentrations over their respective BTVs for the October 2020 sampling event. For sampling events occurring through October

2020, there are no significant ($p<0.05$) temporal trends for Appendix III constituents at this monitoring location.

Monitoring Well M-60. The October 2020 sampling event results in no exceedances of Appendix III constituent concentrations over their respective BTVs. There are statistically significant ($p<0.05$) decreasing time series trend for boron, calcium and pH at this location resulting from the addition of the October 2020 sample.

Monitoring Well M-61. The October 2020 sampling event results in no exceedances of Appendix III constituent concentrations over their respective BTVs. For sampling events occurring through October 2020, there are no significant ($p<0.05$) temporal trends for Appendix III constituents at this monitoring location.

Preliminary Intrawell Exploratory Data Analysis: Appendix C includes preliminary EDA outputs for performing forthcoming updates to the intrawell BTVs for fluoride. The goodness of fit statistics indicate fluoride exhibits a non-parametric distribution, making a Wilcoxon rank-sum comparison appropriate between “background” or “baseline” (e.g., sample data from 2005 to 2017) and compliance (e.g., sample data from 2017 to current) sample datasets at the 99% confidence level. Results indicate there is insufficient evidence to conclude the two sample populations are statistically different and it is practical to combine more recent sample data with historic data in an effort to make the intrawell BTVs more representative of future sample values. The box and whisker plots put forth as part of Appendix C provide a qualitative representation of these comparisons.

5.0 CONCLUSIONS

The October 2020 Appendix III sample concentrations are beneath their respective BTVs at M-59, M-60 and M-61. The BAM should continue Detection Monitoring in accordance with 40 Code of Federal Regulations Section 257.95(f) (Federal Register, 2018).

6.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

United States Environmental Protection Agency (U.S. EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant. Navajo County, Arizona. Prepared for Arizona Public Service. October 15, 2018.

Wood, 2019a. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill*. Arizona Public Service Cholla Power Plant. Navajo County, Arizona. April 15, 2019.

Wood, 2019b. *Alternative Source Demonstration for Fluoride at the BAM.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. August 14, 2019.

ATTACHMENTS

Table 1 – BTVs and Intrawell UPLs for the Cholla BAM
Table 2 – Cholla BAM Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files
Appendix C – Intrawell Preliminary EDA Output Files

TABLES

Table 1

BTVs and Intrawell UPLs for the Cholla BAM

Appendix III Statistical Analysis

Background Well	Dates Corresponding to Data Used to Derive UPL	Constituent	BTV (Calculation Method)	Units	Resampling Strategy[1]
M-54	12/3/2015-10/21/2020	Boron	0.55 (P-UPLT)	mg/L	1 of 2
M-54	12/3/2015-10/21/2020	Calcium	101 (NP-UPLT)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Chloride	1,600 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	pH (upper limit)	7.8 (P-UPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	pH (lower limit)	7.3 (P-LPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	Sulfate	380 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	TDS	3225 (P-UPL)	mg/L	1 of 2

Compliance Well	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell UPL (Calculation Method[1])	Units	Resampling Strategy
M-60	12/3/15-9/5/2017	Fluoride	1.5 (NP-UPL)	mg/L	1 of 3
M-61	12/3/15-9/5/2017	Fluoride	1.5 (NP-UPL)	mg/L	1 of 3

Notes:

BAM = Bottom Ash Pond
BTV = background threshold value
LPL = lower prediction limit
mg/L = milligrams per liter
NP = Non Parametric
P = Parametric
SU = standard units
TDS = total dissolved solids
UPL = upper predicition limit

[1] A 1 of 2 resampling strategy is in place for parametric prediction limits. A 1 of 3 resampling strategy is in place for non-parametric prediction limits and the limit represents the maximum concentration value of the data set (i.e., maximum order statistic). The BTV for calcium represents the second highest concentration value because the maximum concentration value is a percieved outlier and was removed from the evaluation.

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-59	7803_O	03-Dec-15	0.5	87	1300	1.3	7.53	340	2700
M-59	CH-M-59-0316_O	10-Mar-16	0.48	85	1400	1.3	7.57	350	2700
M-59	CH-CCR-M59-516_O	20-May-16	0.49	86	1400	1.4	---	340	2700
M-59	CH-CCR-M59-816_O	27-Aug-16	0.50	89	1400	1.4	7.6	350	2700
M-59	CH-CCR-M59-916_O	22-Sep-16	0.50	88	1300	1.4	7.8	340	2900
M-59	CH-CCR-M59-217_O	22-Feb-17	0.48	86	1200	1.3	7.8	330	2800
M-59	CH-CCR-M59-41117_O	11-Apr-17	0.49	90	1400	1.3	8.1	350	2800
M-59	CH-CCR-M59-42417_O	24-Apr-17	0.52	89	1300	1.4	7.7	350	2800
M-59	CH-CCR-M59-51917_O	19-May-17	0.50	93	1400	1.4	7.8	360	2700
M-59	CH-CCR-M59-52517_O	25-May-17	0.50	88	1300	1.4	7.6	350	2700
M-59	CH-CCR-M59-62917_O	29-Jun-17	0.49	84	1400	1.5	7.8	370	2500
M-59	CH-CCR-M59-72917_O	29-Jul-17	0.53	92	1300	1.5	7.6	340	2800
M-59	CH-CCR-M59-90517_O	05-Sep-17	0.51	90	1300	1.4	7.7	360	2700
M-59	CH-CCR-M59-120717_O	07-Dec-17	0.49	86	1400	1.4	7.7	350	2700
M-59	CH-CCR-M-59-52518_O	25-May-18	0.49	85	1400	1.4	7.5	350	2700
M-59	CH-CCR-M-59-102618	26-Oct-18	0.48	88	1400	1.4	7.6	360	2500
M-59	CH-CCR-M59-40919	09-Apr-19	0.5	86	1200	1.4	7.9	330	2700
M-59	CH-CCR-M59-102319	23-Oct-19	0.48	84	1400	1.3	7.5	350	2800
M-59	CH-CCR-M59-0520	07-May-20	0.5	89	1200	1.8	7.7	350	2800
M-59	CH-CCR-M59-1020	21-Oct-20	0.48	85	1300	1.4	7.5	340	2700
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]:	*0.55*	*101*	*1600*	*1.8*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3]:	*None*	*None*	*None*	*None*	*None*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-60	7801_O	03-Dec-15	0.54	88	1400	1.3	7.56	350	2800
M-60	CH-M-60A-0316_O	09-Mar-16	0.50	86	1400	1.4	7.83	350	2800
M-60	CH-CCR-M60-516_O	20-May-16	0.50	89	1400	1.5	---	350	2800
M-60	CH-CCR-M60-816_O	27-Aug-16	0.52	90	1400	1.5	7.5	360	2800
M-60	CH-CCR-M60-916_O	22-Sep-16	0.51	88	1300	1.4	7.8	350	3000
M-60	CH-CCR-M60-217_O	22-Feb-17	0.52	91	1300	1.4	7.8	340	2800
M-60	CH-CCR-M60-41117_O	11-Apr-17	0.48	90	1400	1.4	8.0	360	2900
M-60	CH-CCR-M60-42417_O	24-Apr-17	0.53	86	1400	1.4	7.8	350	2700
M-60	CH-CCR-M60-51917_O	19-May-17	0.53	92	1400	1.4	7.7	360	2800
M-60	CH-CCR-M60-52517_O	25-May-17	0.51	86	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-62917_O	29-Jun-17	0.51	84	1500	1.5	7.7	440	2500
M-60	CH-CCR-M60-72917_O	29-Jul-17	0.53	89	1400	1.5	7.6	370	2800
M-60	CH-CCR-M60-90517_O	05-Sep-17	0.53	90	1400	1.5	7.6	360	2800
M-60	CH-CCR-M60-120717_O	07-Dec-17	0.50	85	1500	1.4	7.6	360	2900
M-60	CH-CCR-M-60-52518_O	25-May-18	0.50	83	1400	1.5	7.5	350	2800
M-60	CH-CCR-M-60-102618	26-Oct-18	0.49	88	1400	1.4	7.7	350	2600
M-60	CH-CCR-M60-40919	09-Apr-19	0.51	84	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-102219	22-Oct-19	0.5	85	1400	1.4	7.6	360	2800
M-60	CH-CCR-M60-0520	07-May-20	0.5	88	1200	1.7	7.7	350	2900
M-60	CH-CCR-M60-1020	21-Oct-20	0.48	82	1400	1.4	7.5	340	2900
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2] *:*	*0.55*	*101*	*1600*	*1.5*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3] *:*	*Decreasing*	*Decreasing*	*None*	*None*	*Decreasing*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-61	7802_O	03-Dec-15	0.51	90	1400	1.3	7.22	350	2800
M-61	CH-M-61-0316_O	10-Mar-16	0.49	90	1400	1.4	7.59	340	2800
M-61	CH-CCR-M61-516_O	20-May-16	0.49	89	1400	1.4	---	350	2800
M-61	CH-CCR-M61-816_O	27-Aug-16	0.50	90	1400	1.5	7.5	360	2900
M-61	CH-CCR-M61-916_O	22-Sep-16	0.50	90	1300	1.4	7.9	350	3000
M-61	CH-CCR-M61-217_O	22-Feb-17	0.50	92	1100	1.4	7.8	340	2700
M-61	CH-CCR-M61-41117_O	11-Apr-17	0.50	93	1700	1.4	8.0	420	3000
M-61	CH-CCR-M61-42417_O	24-Apr-17	0.52	88	1400	1.4	7.7	360	2700
M-61	CH-CCR-M61-51917_O	19-May-17	0.5	92	1400	1.3	7.8	370	2800
M-61	CH-CCR-M61-52517_O	25-May-17	0.51	92	1400	1.4	7.7	370	2800
M-61	CH-CCR-M61-62917_O	29-Jun-17	0.50	86	1500	1.5	7.8	380	2700
M-61	CH-CCR-M61-72917_O	29-Jul-17	0.52	94	1300	1.5	7.6	360	2900
M-61	CH-CCR-M61-90517_O	05-Sep-17	0.50	91	1400	1.5	7.6	360	2800
M-61	CH-CCR-M61-120717_O	07-Dec-17	0.49	88	1500	1.4	7.6	360	2900
M-61	CH-CCR-M-61-52518_O	25-May-18	0.48	87	1400	1.5	7.5	390	2800
M-61	CH-CCR-M-61-102618	26-Oct-18	0.48	91	1400	1.4	7.5	360	2600
M-61	CH-CCR-M61-40919	09-Apr-19	0.5	88	1300	1.4	7.7	340	2800
M-61	CH-CCR-M61-102219	22-Oct-19	0.48	87	1400	1.4	7.8	350	2700
M-61	CH-CCR-M61-0520	07-May-20	0.51	93	1300	1.6	7.7	350	3000
M-61	CH-CCR-M61-1020	21-Oct-20	0.48	88	1400	1.4	7.5	350	2700
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]*:*	*0.55*	*101*	*1600*	*1.5*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3]*:*	*None*	*None*	*None*	*None*	*None*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS

Notes:
BTV = background threshold value
mg/L = milligrams per liter
TDS = total dissolved solids
UPL = upper prediction limit
SU = standard units

0.50	Value from baseline monitoring period (December 2015 to September 2017)
	Reported value in current sampling round exceeds the BTV or UPL
	Statistically significant increasing trend present
None	Insufficient evidence to identify a trend.

[1] New values calculated for this sampling round presented in bolded red text; see Table 1 for relevant BTV and Intrawell UPL information

[2] For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively

[3] Temporal trends evaluated with Mann-Kendall trend tests ($p<0.05$); tied values (sequential sample concentrations

APPENDIX A

PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	Sample Date	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH
M-59	7803	12/03/2015	0.5	1	87	1	1300	1	1.3	1	7.53
M-59	CH-M-59-0316	03/10/2016	0.48	1	85	1	1400	1	1.3	1	7.57
M-59	CH-CCR-M59-516	05/20/2016	0.49	1	86	1	1400	1	1.4	1	NA
M-59	CH-CCR-M59-816	08/27/2016	0.5	1	89	1	1400	1	1.4	1	7.6
M-59	CH-CCR-M59-916	09/22/2016	0.5	1	88	1	1300	1	1.4	1	7.8
M-59	CH-CCR-M59-217	02/22/2017	0.48	1	86	1	1200	1	1.3	1	7.8
M-59	CH-CCR-M59-41117	04/11/2017	0.49	1	90	1	1400	1	1.3	1	8.1
M-59	CH-CCR-M59-42417	04/24/2017	0.52	1	89	1	1300	1	1.4	1	7.7
M-59	CH-CCR-M59-51917	05/19/2017	0.5	1	93	1	1400	1	1.4	1	7.8
M-59	CH-CCR-M59-52517	05/25/2017	0.5	1	88	1	1300	1	1.4	1	7.6
M-59	CH-CCR-M59-62917	06/29/2017	0.49	1	84	1	1400	1	1.5	1	7.8
M-59	CH-CCR-M59-72917	07/29/2017	0.53	1	92	1	1300	1	1.5	1	7.6
M-59	CH-CCR-M59-90517	09/05/2017	0.51	1	90	1	1300	1	1.4	1	7.7
M-59	CH-CCR-M59-120717	12/07/2017	0.49	1	86	1	1400	1	1.4	1	7.7
M-59	CH-CCR-M-59-52518	05/25/2018	0.49	1	85	1	1400	1	1.4	1	7.5
M-59	CH-CCR-M-59-102618	10/26/2018	0.48	1	88	1	1400	1	1.4	1	7.6
M-59	CH-CCR-M59-40919	04/09/2019	0.5	1	86	1	1200	1	1.4	1	7.9
M-59	CH-CCR-M59-102319	10/23/2019	0.48	1	84	1	1400	1	1.3	1	7.5
M-59	CH-CCR-M59-0520	05/07/2020	0.5	1	89	1	1200	1	1.8	1	7.7
M-59	CH-CCR-M59-1020	10/21/2020	0.48	1	85	1	1300	1	1.4	1	7.5
M-60	7801	12/03/2015	0.54	1	88	1	1400	1	1.3	1	7.56
M-60	CH-M-60A-0316	03/09/2016	0.5	1	86	1	1400	1	1.4	1	7.83
M-60	CH-CCR-M60-516	05/20/2016	0.5	1	89	1	1400	1	1.5	1	NA
M-60	CH-CCR-M60-816	08/27/2016	0.52	1	90	1	1400	1	1.5	1	7.5
M-60	CH-CCR-M60-916	09/22/2016	0.51	1	88	1	1300	1	1.5	1	7.8
M-60	CH-CCR-M60-217	02/22/2017	0.52	1	91	1	1300	1	1.4	1	7.8
M-60	CH-CCR-M60-41117	04/11/2017	0.48	1	90	1	1400	1	1.4	1	8
M-60	CH-CCR-M60-42417	04/24/2017	0.53	1	86	1	1400	1	1.4	1	7.8
M-60	CH-CCR-M60-51917	05/19/2017	0.53	1	92	1	1400	1	1.4	1	7.7
M-60	CH-CCR-M60-52517	05/25/2017	0.51	1	86	1	1300	1	1.4	1	7.7
M-60	CH-CCR-M60-62917	06/29/2017	0.51	1	84	1	1500	1	1.5	1	7.7
M-60	CH-CCR-M60-72917	07/29/2017	0.53	1	89	1	1400	1	1.5	1	7.6

Well Name	Field Sample ID	Sample Date	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH
M-60	CH-CCR-M60-90517	09/05/2017	0.53	1	90	1	1400	1	1.5	1	7.6
M-60	CH-CCR-M60-120717	12/07/2017	0.5	1	85	1	1500	1	1.4	1	7.6
M-60	CH-CCR-M-60-52518	05/25/2018	0.5	1	83	1	1400	1	1.5	1	7.5
M-60	CH-CCR-M-60-102618	10/26/2018	0.49	1	88	1	1400	1	1.4	1	7.7
M-60	CH-CCR-M60-40919	04/09/2019	0.51	1	84	1	1300	1	1.4	1	7.7
M-60	CH-CCR-M60-102219	10/22/2019	0.5	1	85	1	1400	1	1.4	1	7.6
M-60	CH-CCR-M60-0520	05/07/2020	0.5	1	88	1	1200	1	1.7	1	7.7
M-60	CH-CCR-M60-1020	10/21/2020	0.48	1	82	1	1400	1	1.4	1	7.5
M-61	7802	12/03/2015	0.51	1	90	1	1400	1	1.3	1	7.22
M-61	CH-M-61-0316	03/10/2016	0.49	1	90	1	1400	1	1.4	1	7.59
M-61	CH-CCR-M61-516	05/20/2016	0.49	1	89	1	1400	1	1.4	1	NA
M-61	CH-CCR-M61-816	08/27/2016	0.5	1	90	1	1400	1	1.5	1	7.5
M-61	CH-CCR-M61-916	09/22/2016	0.5	1	90	1	1300	1	1.5	1	7.9
M-61	CH-CCR-M61-217	02/22/2017	0.5	1	92	1	1100	1	1.4	1	7.8
M-61	CH-CCR-W61-217	02/22/2017	NA	NA	NA	NA	NA	NA	1.5	1	NA
M-61	CH-CCR-M61-41117	04/11/2017	0.5	1	93	1	1700	1	1.3	1	8
M-61	CH-CCR-M61-42417	04/24/2017	0.52	1	88	1	1400	1	1.4	1	7.7
M-61	CH-CCR-M61-51917	05/19/2017	0.5	1	92	1	1400	1	1.3	1	7.8
M-61	CH-CCR-M61-52517	05/25/2017	0.51	1	92	1	1400	1	1.4	1	7.7
M-61	CH-CCR-M61-62917	06/29/2017	0.5	1	86	1	1500	1	1.5	1	7.8
M-61	CH-CCR-M61-72917	07/29/2017	0.52	1	94	1	1300	1	1.5	1	7.6
M-61	CH-CCR-M61-90517	09/05/2017	0.5	1	91	1	1400	1	1.5	1	7.6
M-61	CH-CCR-M61-120717	12/07/2017	0.49	1	88	1	1500	1	1.4	1	7.6
M-61	CH-CCR-M-61-52518	05/25/2018	0.48	1	87	1	1400	1	1.5	1	7.5
M-61	CH-CCR-M-61-102618	10/26/2018	0.48	1	91	1	1400	1	1.4	1	7.5
M-61	CH-CCR-M61-40919	04/09/2019	0.5	1	88	1	1300	1	1.4	1	7.7
M-61	CH-CCR-M61-102219	10/22/2019	0.48	1	87	1	1400	1	1.4	1	7.8
M-61	CH-CCR-M61-0520	05/07/2020	0.51	1	93	1	1300	1	1.6	1	7.7
M-61	CH-CCR-M61-1020	10/21/2020	0.48	1	88	1	1400	1	1.4	1	7.5

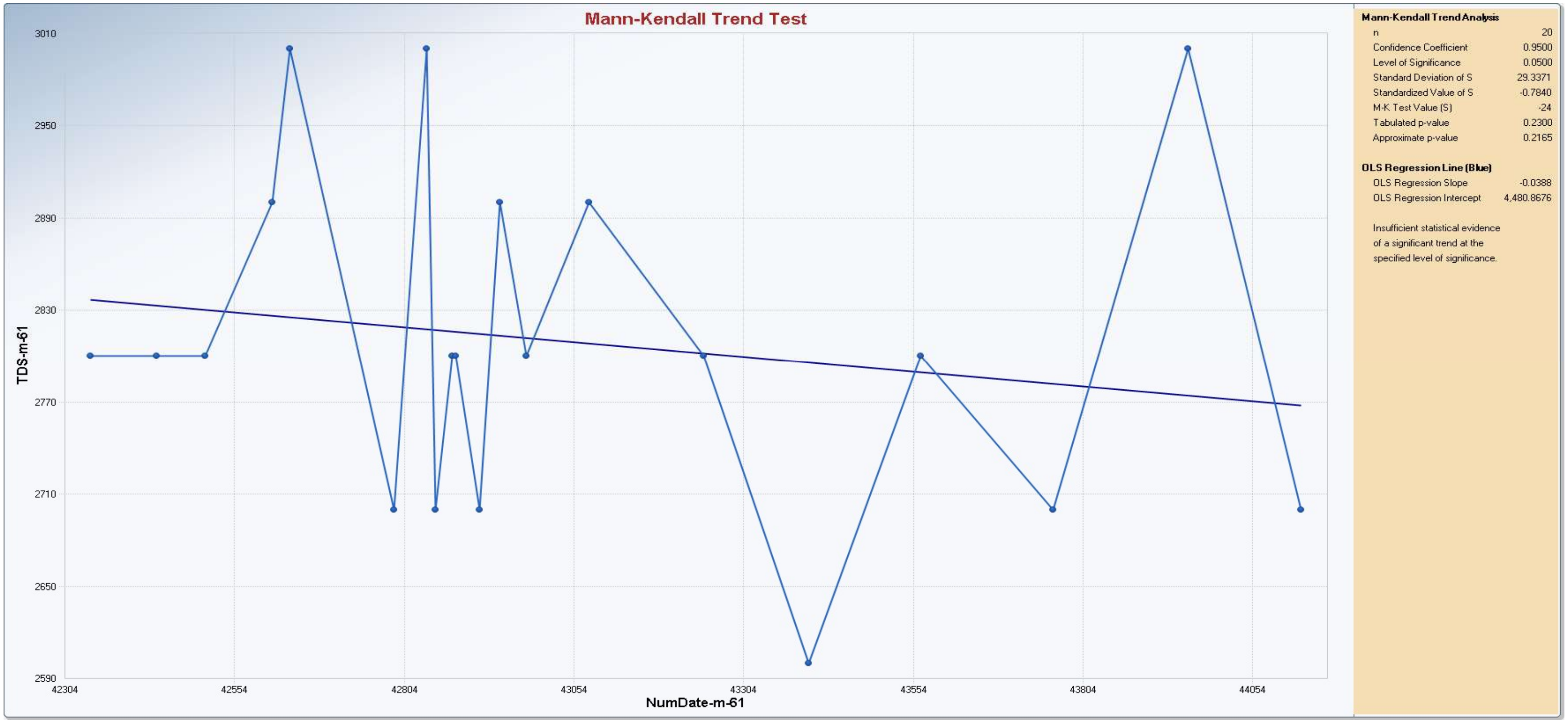
Well Name	Field Sample ID	Sample Date	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-59	7803	12/03/2015	1	340	1	2700	1
M-59	CH-M-59-0316	03/10/2016	1	350	1	2700	1
M-59	CH-CCR-M59-516	05/20/2016	NA	340	1	2700	1
M-59	CH-CCR-M59-816	08/27/2016	1	350	1	2700	1
M-59	CH-CCR-M59-916	09/22/2016	1	340	1	2900	1
M-59	CH-CCR-M59-217	02/22/2017	1	330	1	2800	1
M-59	CH-CCR-M59-41117	04/11/2017	1	350	1	2800	1
M-59	CH-CCR-M59-42417	04/24/2017	1	350	1	2800	1
M-59	CH-CCR-M59-51917	05/19/2017	1	360	1	2700	1
M-59	CH-CCR-M59-52517	05/25/2017	1	350	1	2700	1
M-59	CH-CCR-M59-62917	06/29/2017	1	370	1	2500	1
M-59	CH-CCR-M59-72917	07/29/2017	1	340	1	2800	1
M-59	CH-CCR-M59-90517	09/05/2017	1	360	1	2700	1
M-59	CH-CCR-M59-120717	12/07/2017	1	350	1	2700	1
M-59	CH-CCR-M-59-52518	05/25/2018	1	350	1	2700	1
M-59	CH-CCR-M-59-102618	10/26/2018	1	360	1	2500	1
M-59	CH-CCR-M59-40919	04/09/2019	1	330	1	2700	1
M-59	CH-CCR-M59-102319	10/23/2019	1	350	1	2800	1
M-59	CH-CCR-M59-0520	05/07/2020	1	350	1	2800	1
M-59	CH-CCR-M59-1020	10/21/2020	1	340	1	2700	1
M-60	7801	12/03/2015	1	350	1	2800	1
M-60	CH-M-60A-0316	03/09/2016	1	350	1	2800	1
M-60	CH-CCR-M60-516	05/20/2016	NA	350	1	2800	1
M-60	CH-CCR-M60-816	08/27/2016	1	360	1	2800	1
M-60	CH-CCR-M60-916	09/22/2016	1	350	1	3000	1
M-60	CH-CCR-M60-217	02/22/2017	1	340	1	2800	1
M-60	CH-CCR-M60-41117	04/11/2017	1	360	1	2900	1
M-60	CH-CCR-M60-42417	04/24/2017	1	350	1	2700	1
M-60	CH-CCR-M60-51917	05/19/2017	1	360	1	2800	1
M-60	CH-CCR-M60-52517	05/25/2017	1	350	1	2800	1
M-60	CH-CCR-M60-62917	06/29/2017	1	440	1	2500	1
M-60	CH-CCR-M60-72917	07/29/2017	1	370	1	2800	1

Well Name	Field Sample ID	Sample Date	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-60	CH-CCR-M60-90517	09/05/2017	1	360	1	2800	1
M-60	CH-CCR-M60-120717	12/07/2017	1	360	1	2900	1
M-60	CH-CCR-M-60-52518	05/25/2018	1	350	1	2800	1
M-60	CH-CCR-M-60-102618	10/26/2018	1	350	1	2600	1
M-60	CH-CCR-M60-40919	04/09/2019	1	350	1	2800	1
M-60	CH-CCR-M60-102219	10/22/2019	1	360	1	2800	1
M-60	CH-CCR-M60-0520	05/07/2020	1	350	1	2900	1
M-60	CH-CCR-M60-1020	10/21/2020	1	340	1	2900	1
M-61	7802	12/03/2015	1	350	1	2800	1
M-61	CH-M-61-0316	03/10/2016	1	340	1	2800	1
M-61	CH-CCR-M61-516	05/20/2016	NA	350	1	2800	1
M-61	CH-CCR-M61-816	08/27/2016	1	360	1	2900	1
M-61	CH-CCR-M61-916	09/22/2016	1	350	1	3000	1
M-61	CH-CCR-M61-217	02/22/2017	1	340	1	2700	1
M-61	CH-CCR-W61-217	02/22/2017	NA	NA	NA	NA	NA
M-61	CH-CCR-M61-41117	04/11/2017	1	420	1	3000	1
M-61	CH-CCR-M61-42417	04/24/2017	1	360	1	2700	1
M-61	CH-CCR-M61-51917	05/19/2017	1	370	1	2800	1
M-61	CH-CCR-M61-52517	05/25/2017	1	370	1	2800	1
M-61	CH-CCR-M61-62917	06/29/2017	1	380	1	2700	1
M-61	CH-CCR-M61-72917	07/29/2017	1	360	1	2900	1
M-61	CH-CCR-M61-90517	09/05/2017	1	360	1	2800	1
M-61	CH-CCR-M61-120717	12/07/2017	1	360	1	2900	1
M-61	CH-CCR-M-61-52518	05/25/2018	1	390	1	2800	1
M-61	CH-CCR-M-61-102618	10/26/2018	1	360	1	2600	1
M-61	CH-CCR-M61-40919	04/09/2019	1	340	1	2800	1
M-61	CH-CCR-M61-102219	10/22/2019	1	350	1	2700	1
M-61	CH-CCR-M61-0520	05/07/2020	1	350	1	3000	1
M-61	CH-CCR-M61-1020	10/21/2020	1	350	1	2700	1

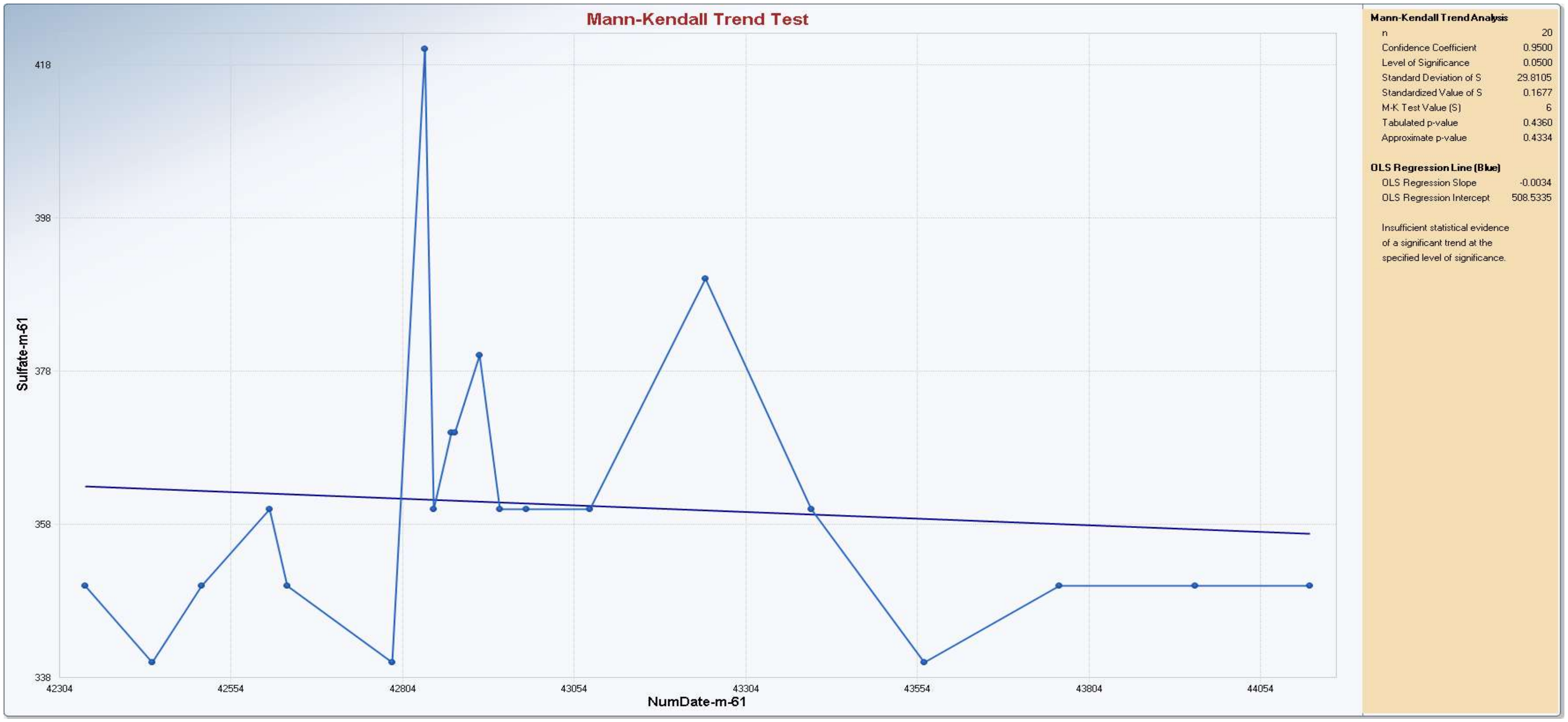
APPENDIX B

PROUCL EDA OUTPUT FILES

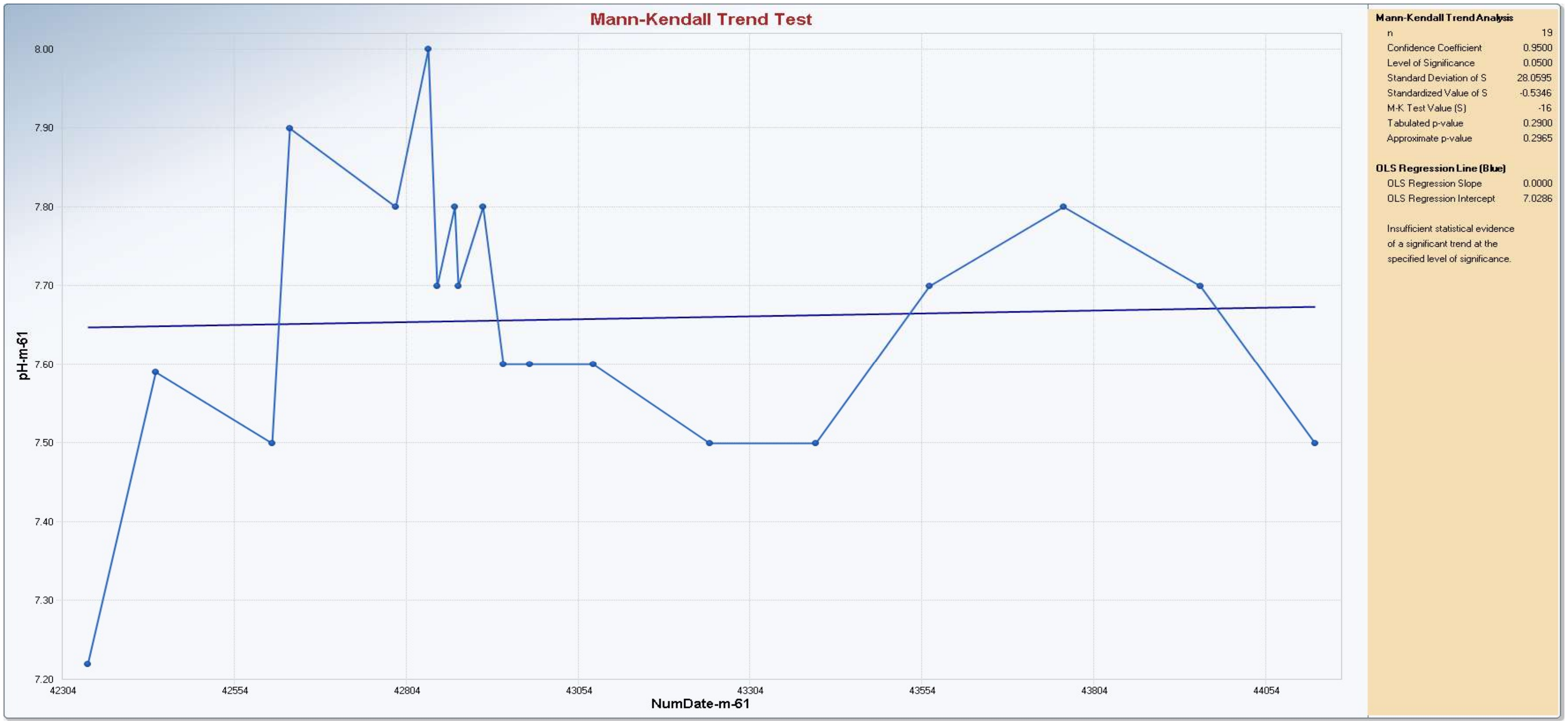
Appendix B
Time Series Plots



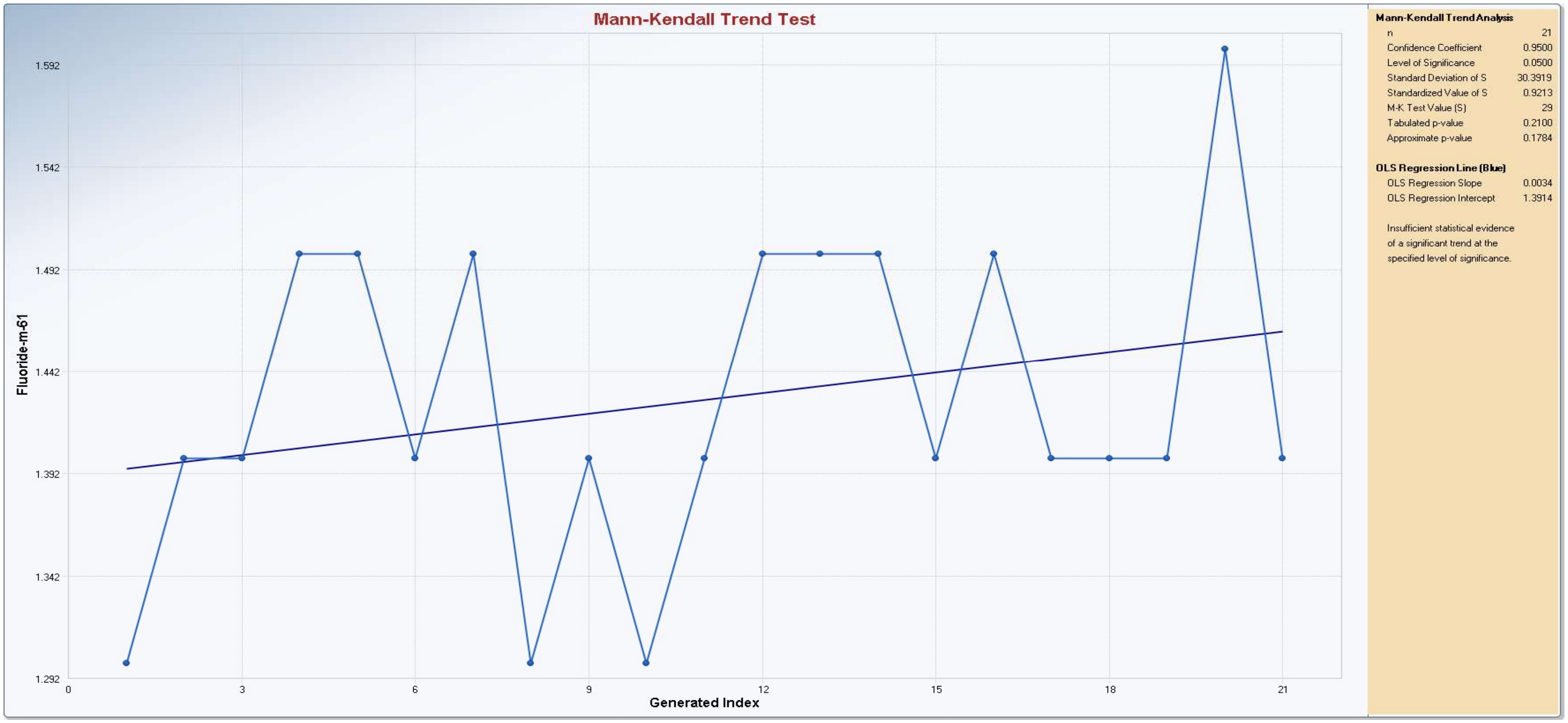
Appendix B
Time Series Plots



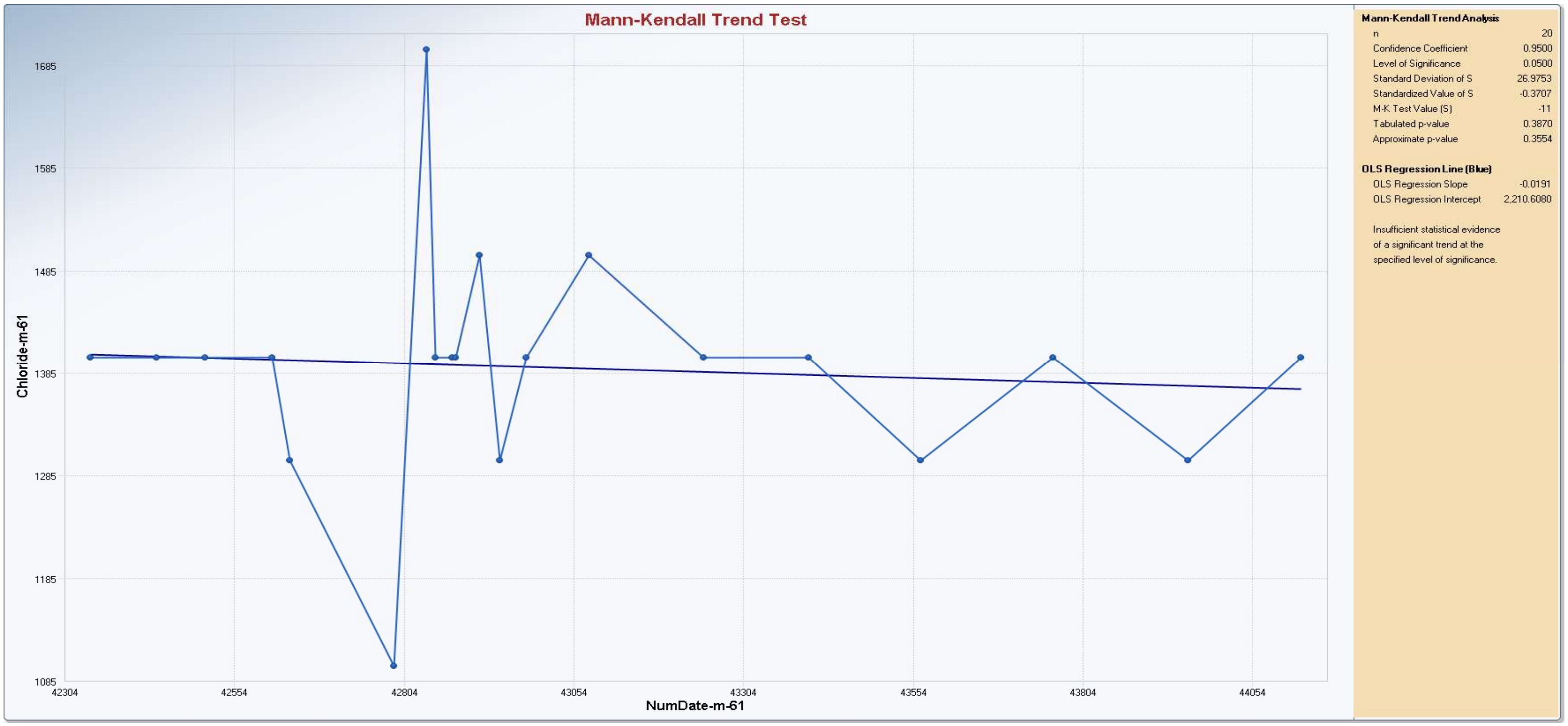
Appendix B
Time Series Plots



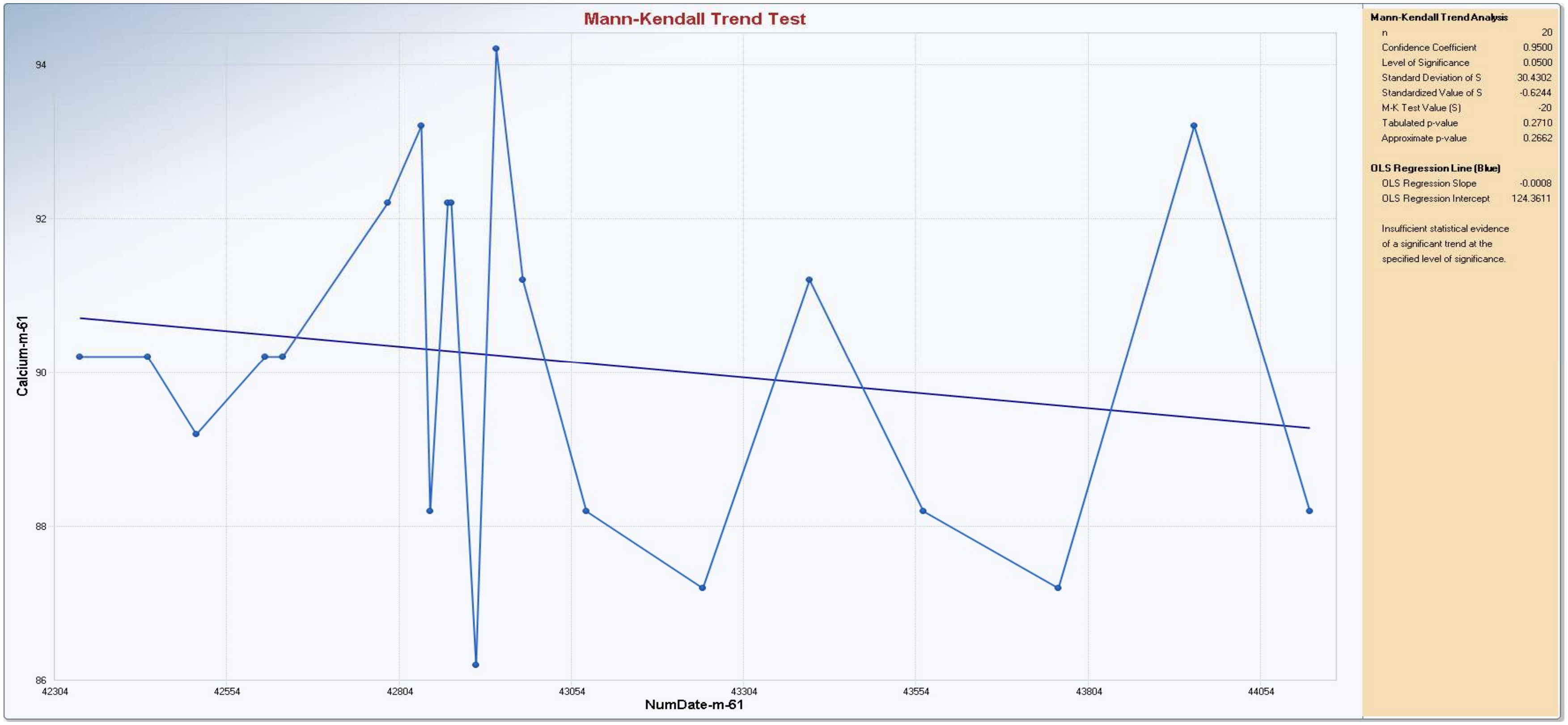
Appendix B
Time Series Plots



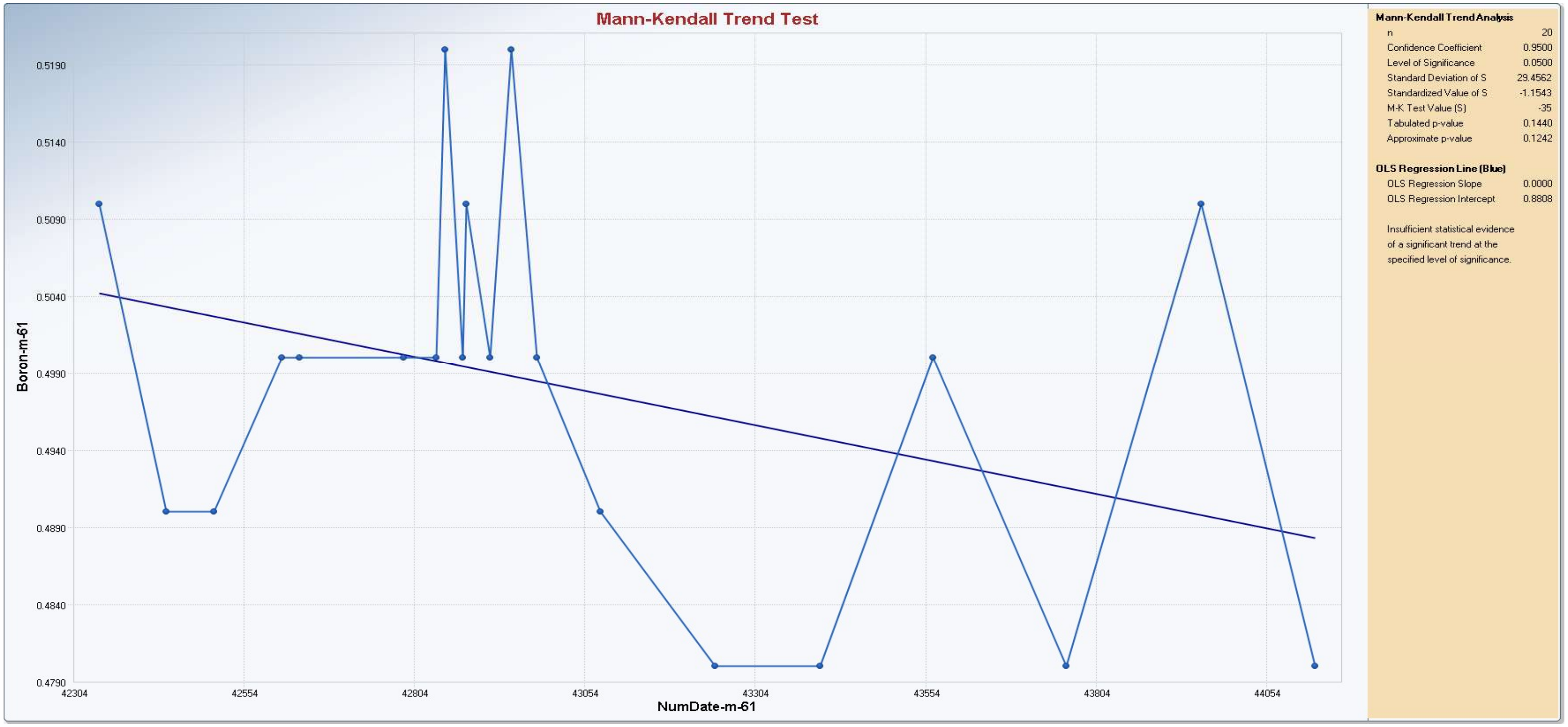
Appendix B
Time Series Plots



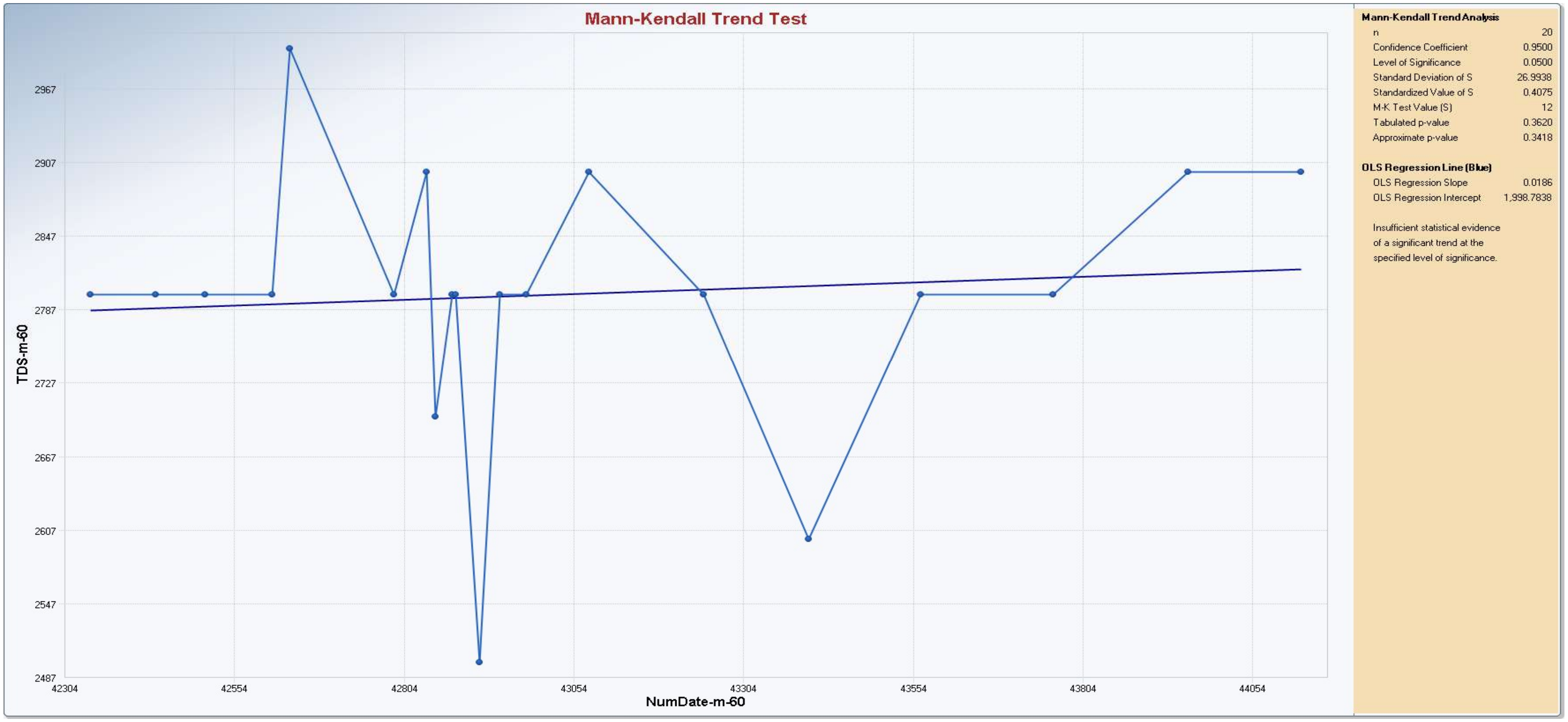
Appendix B
Time Series Plots



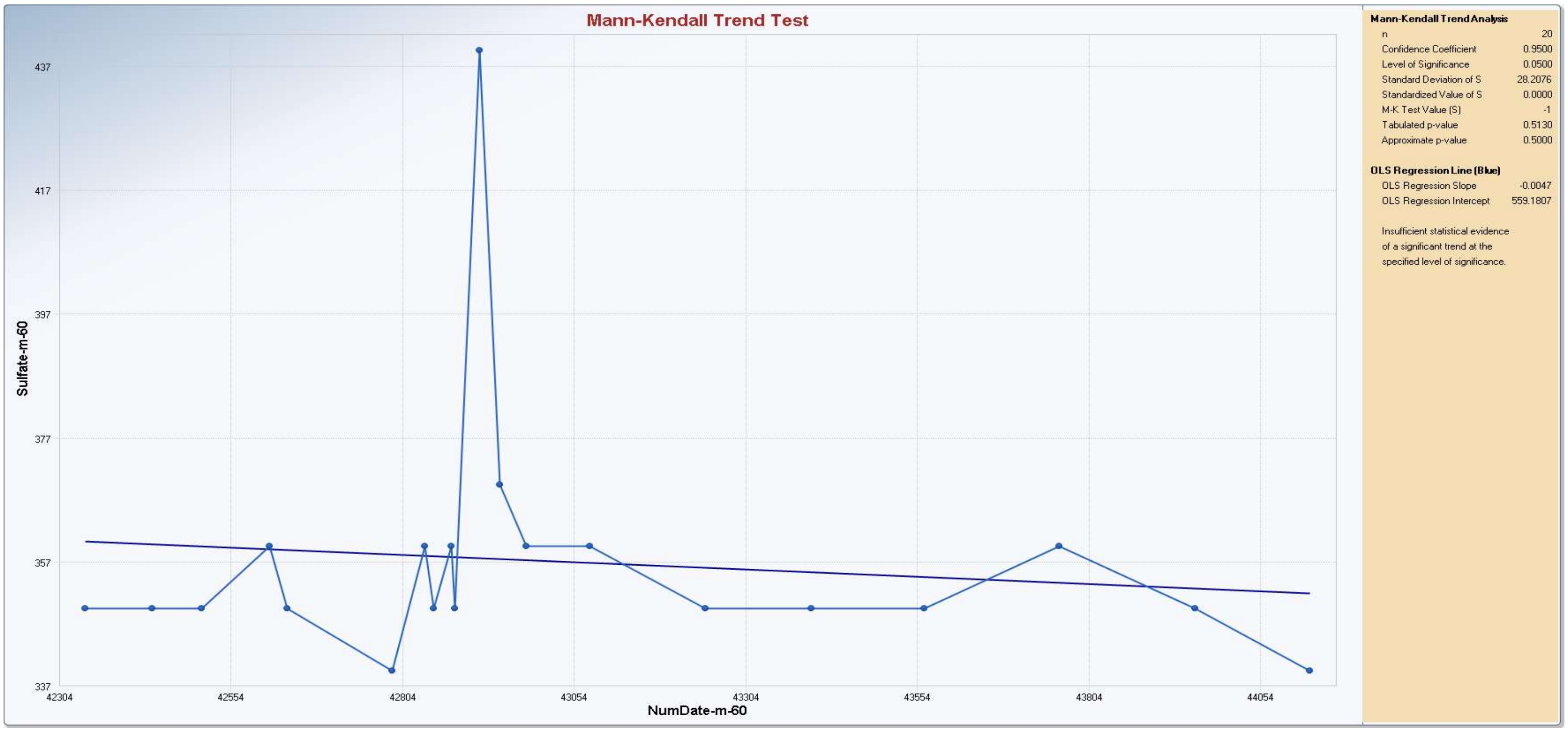
Appendix B
Time Series Plots



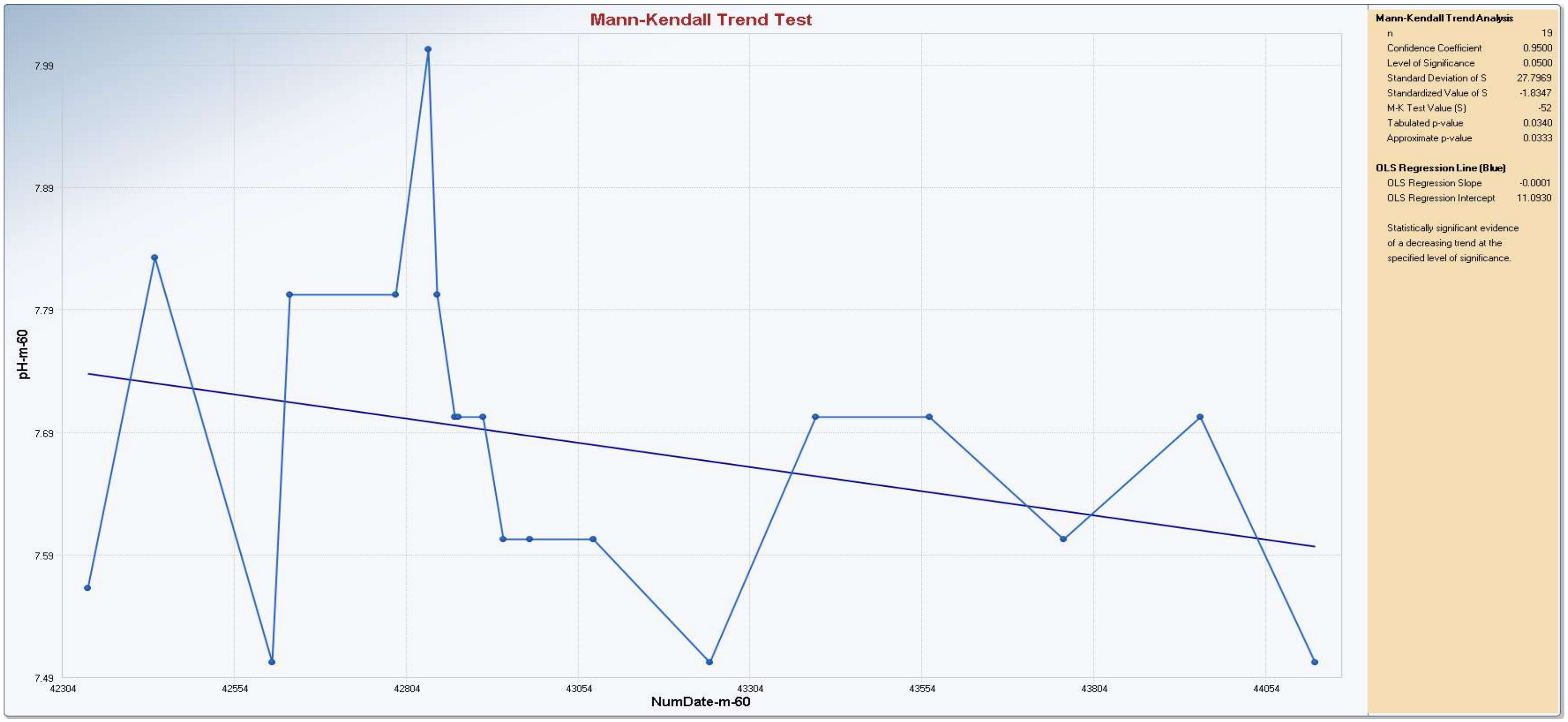
Appendix B
Time Series Plots



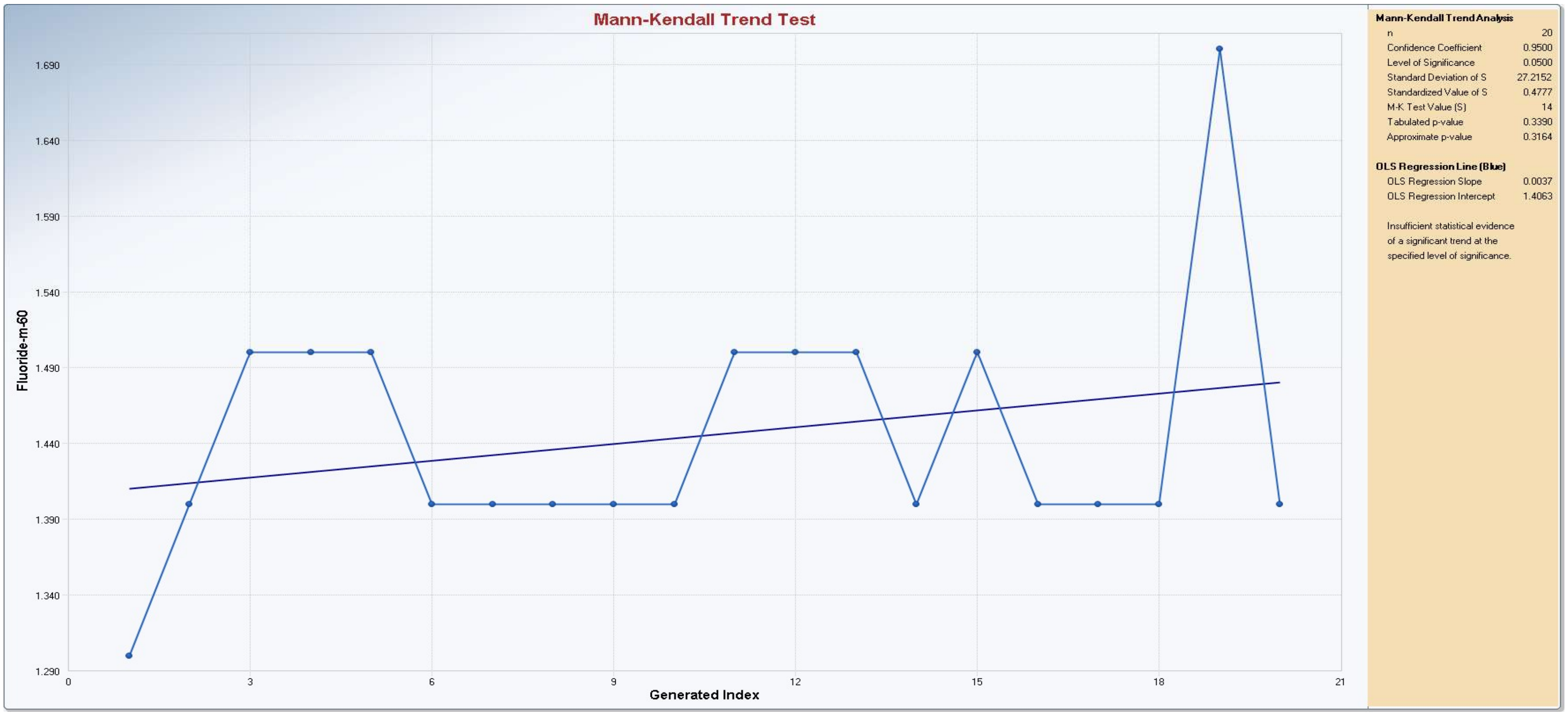
Appendix B
Time Series Plots



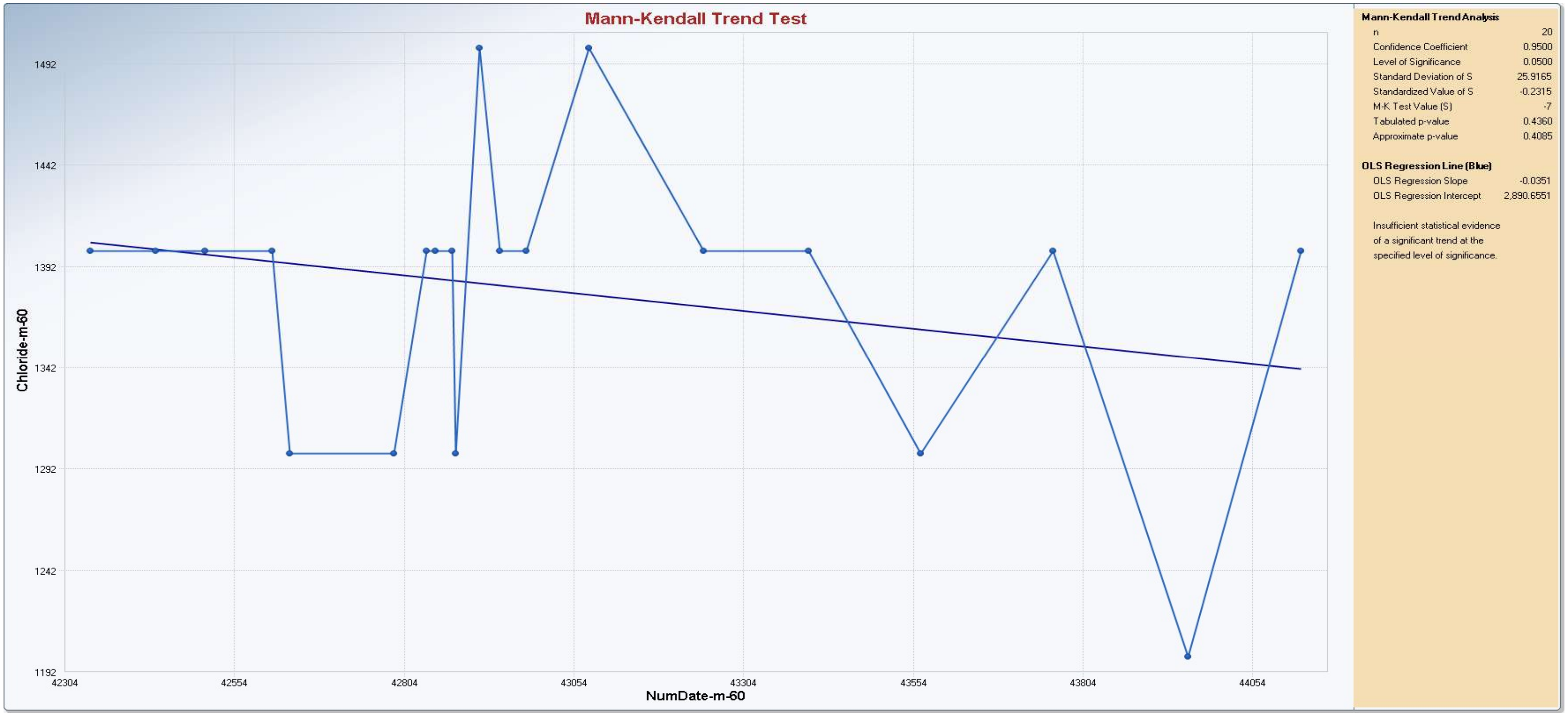
Appendix B
Time Series Plots



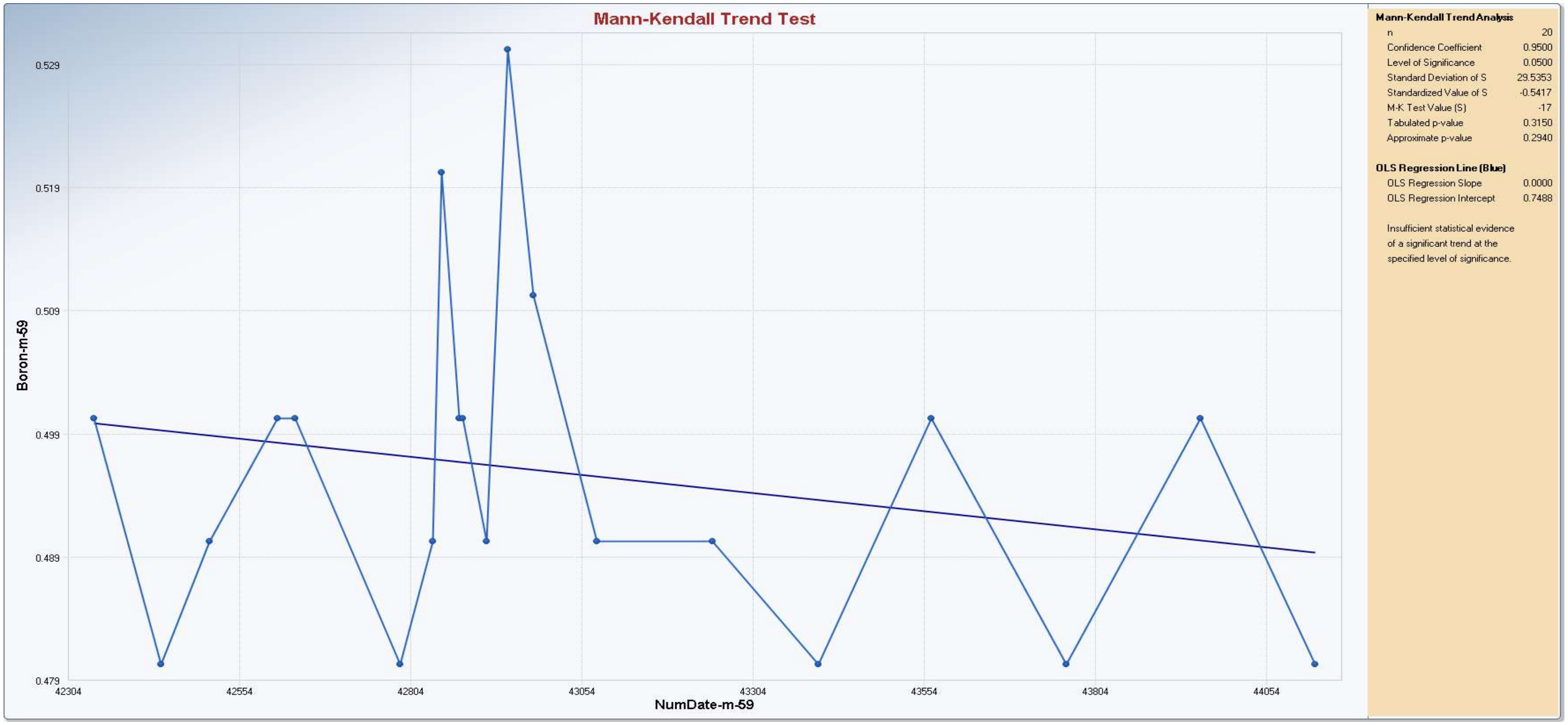
Appendix B
Time Series Plots



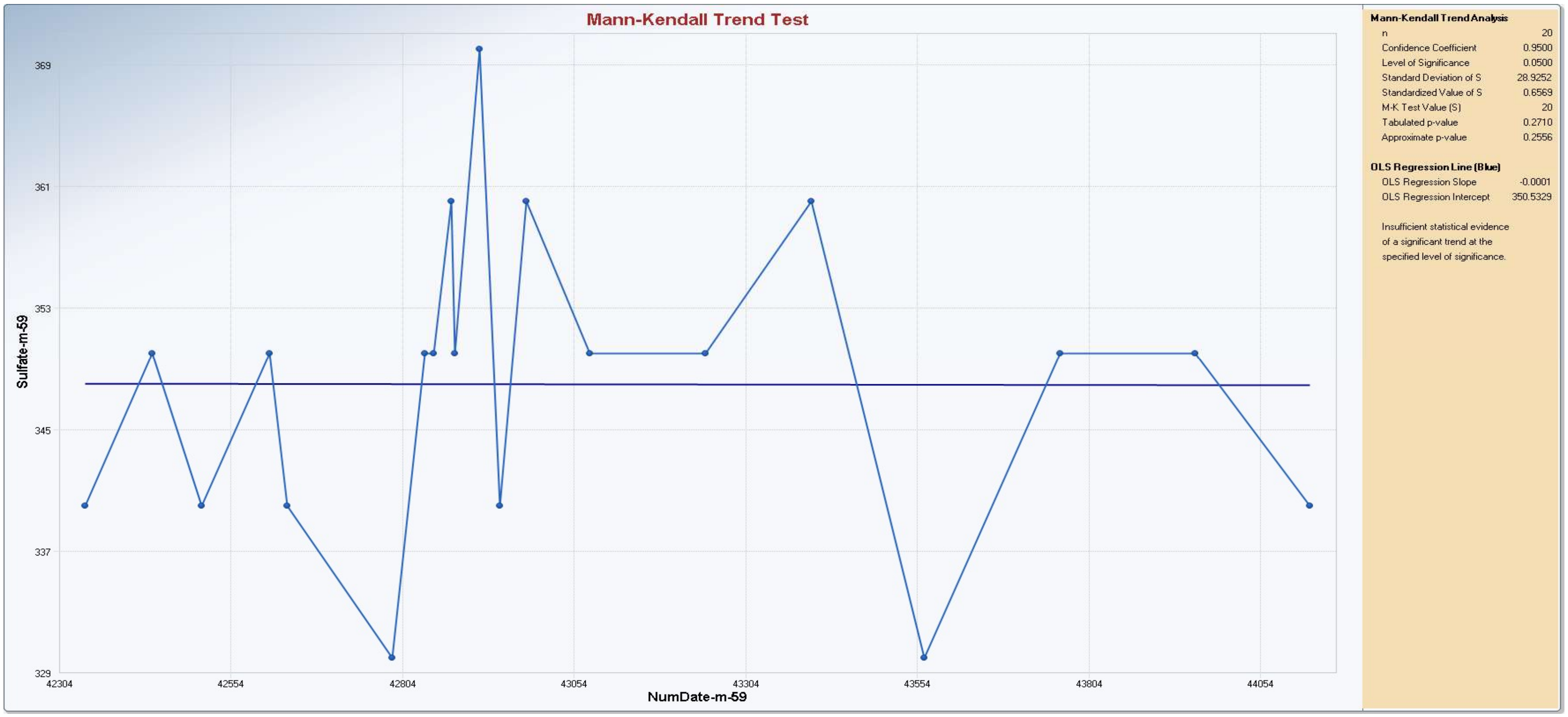
Appendix B
Time Series Plots



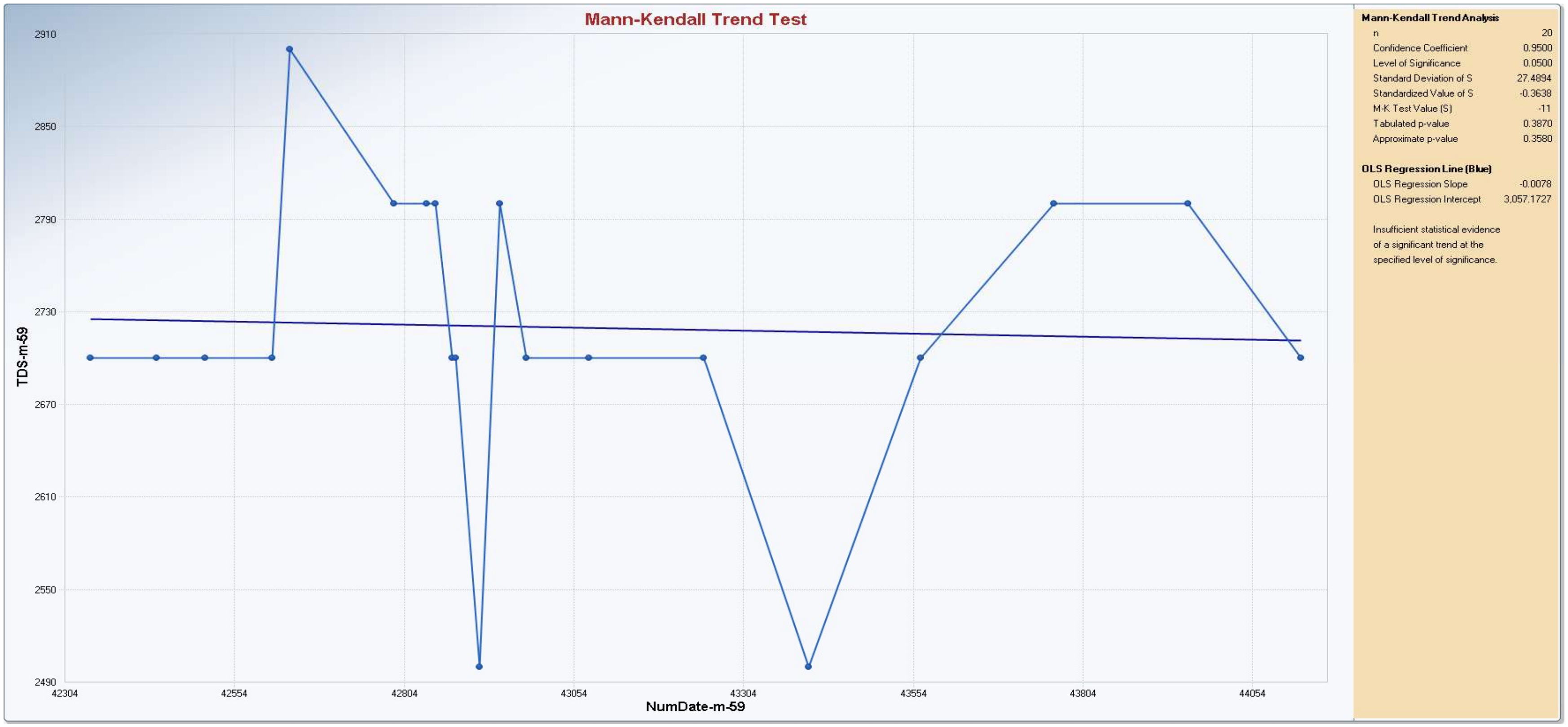
Appendix B
Time Series Plots



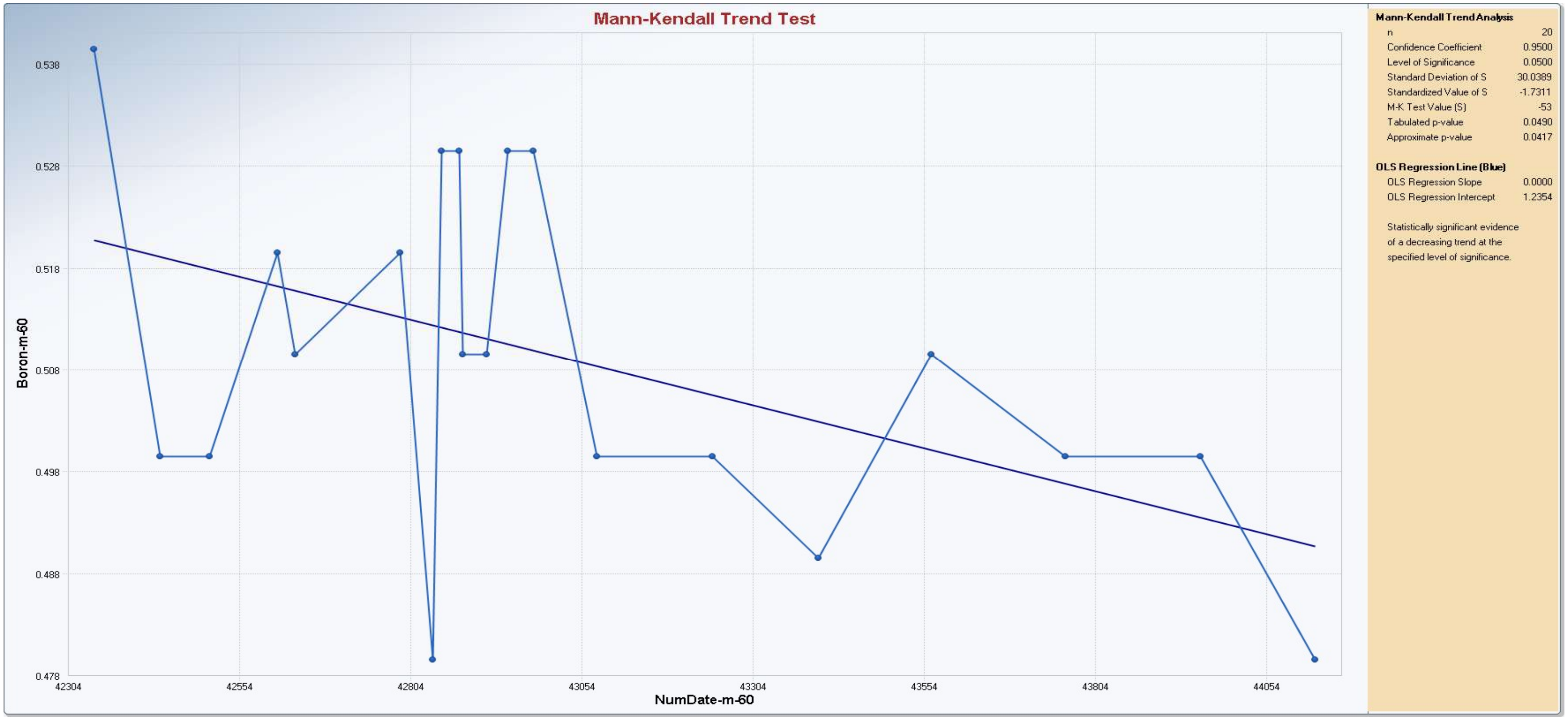
Appendix B
Time Series Plots



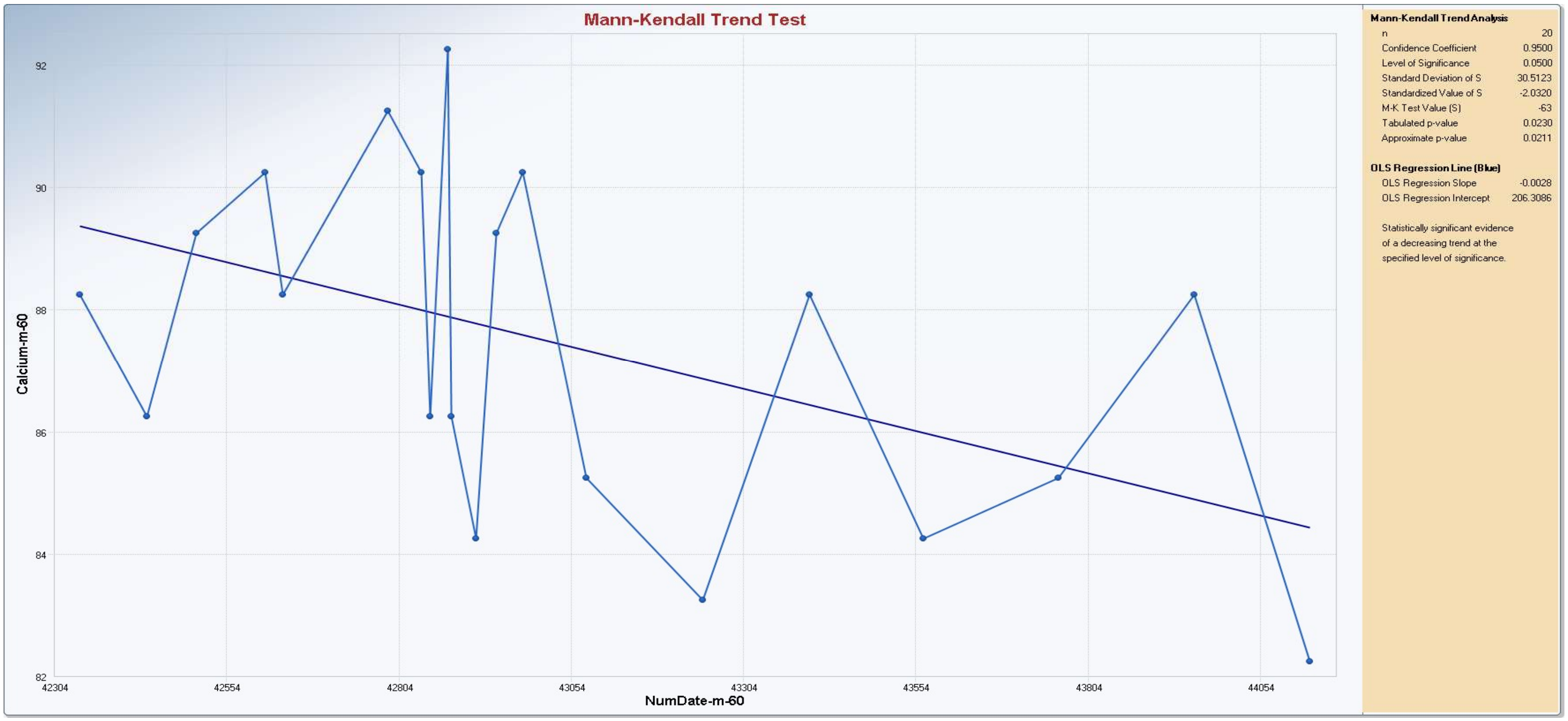
Appendix B
Time Series Plots



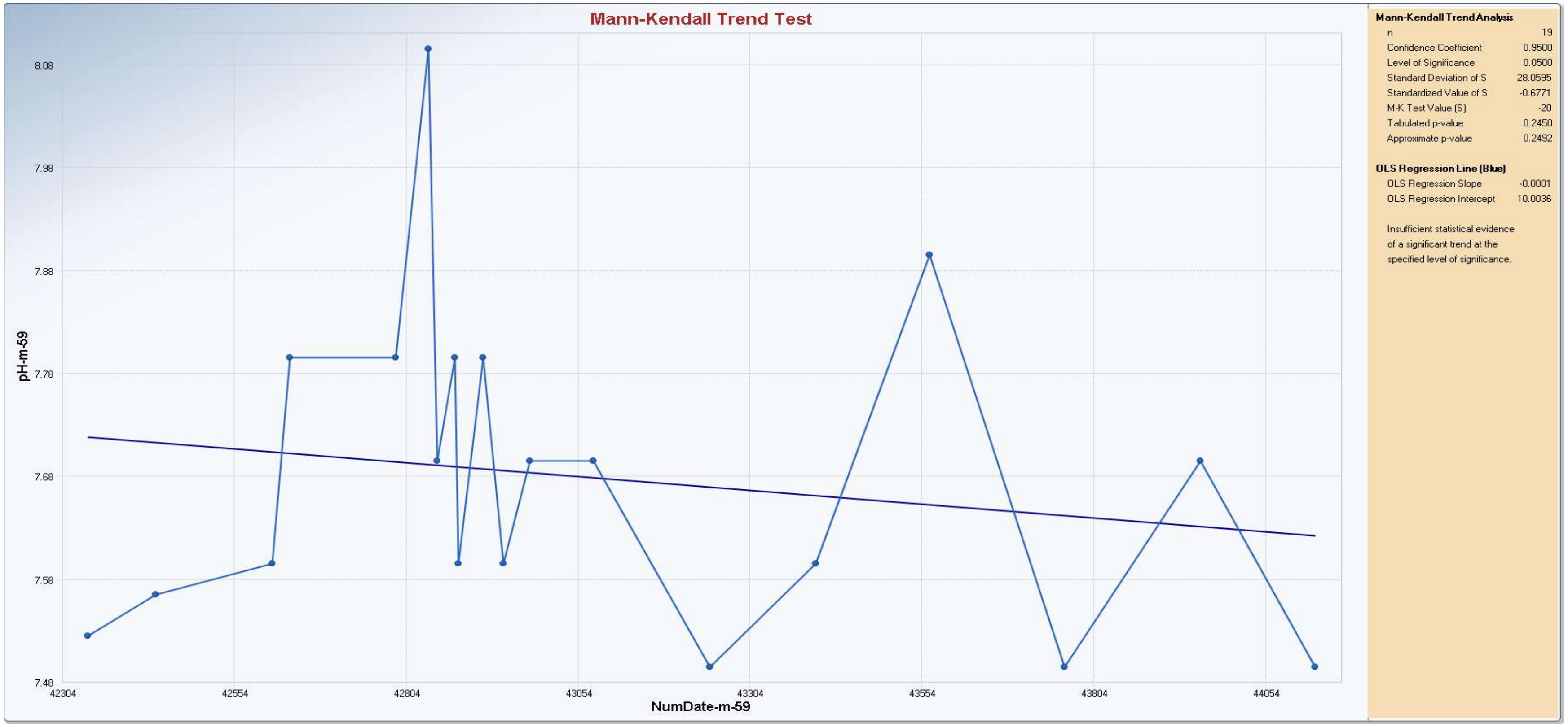
Appendix B
Time Series Plots



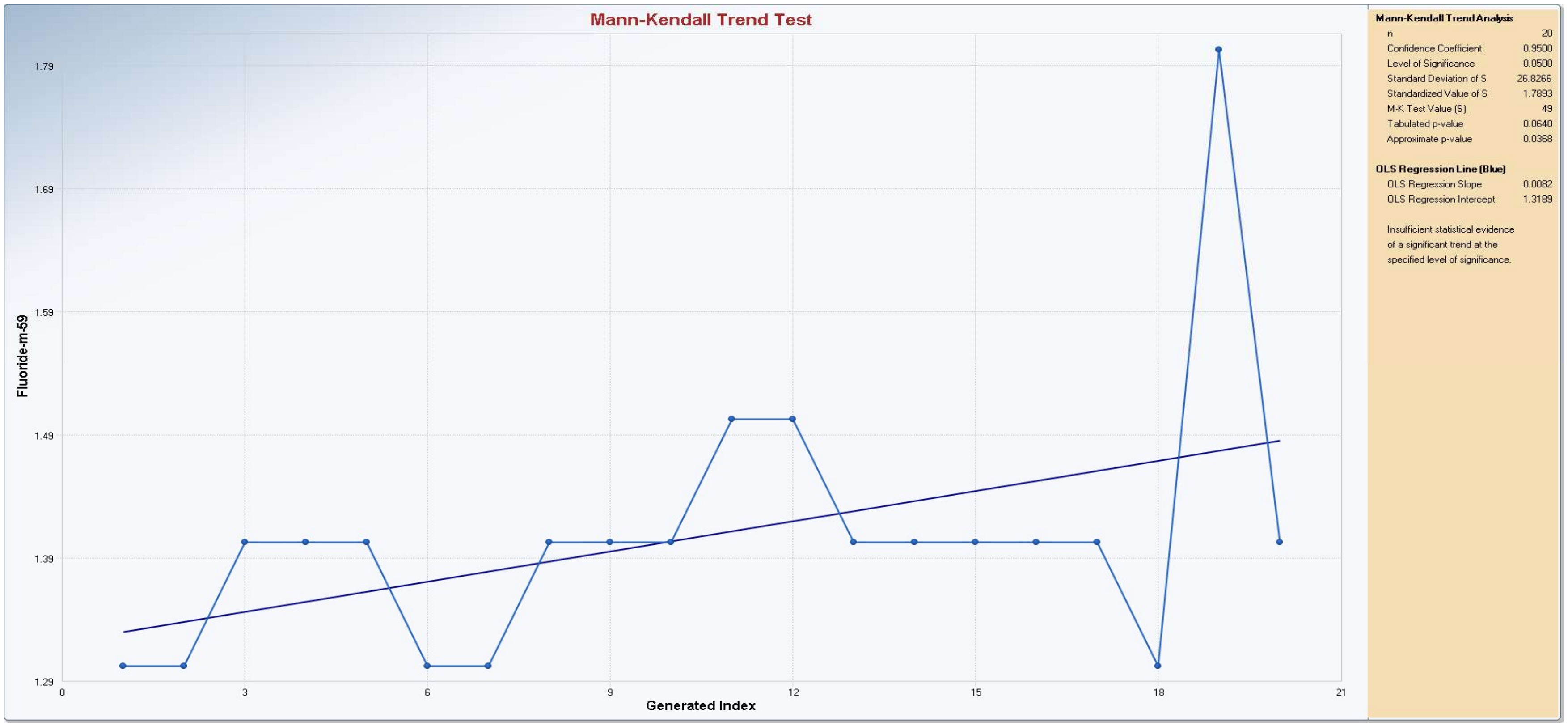
Appendix B
Time Series Plots



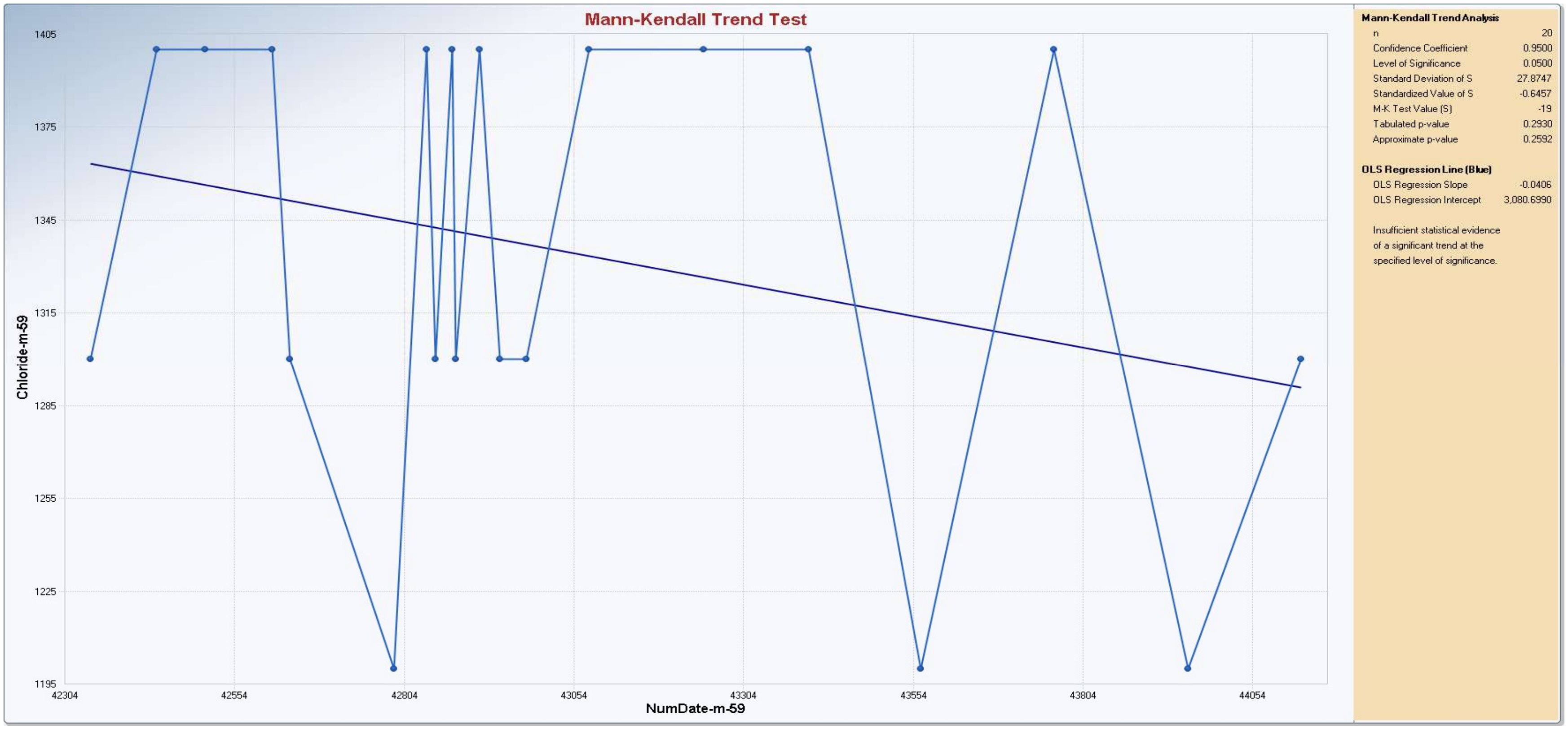
Appendix B
Time Series Plots



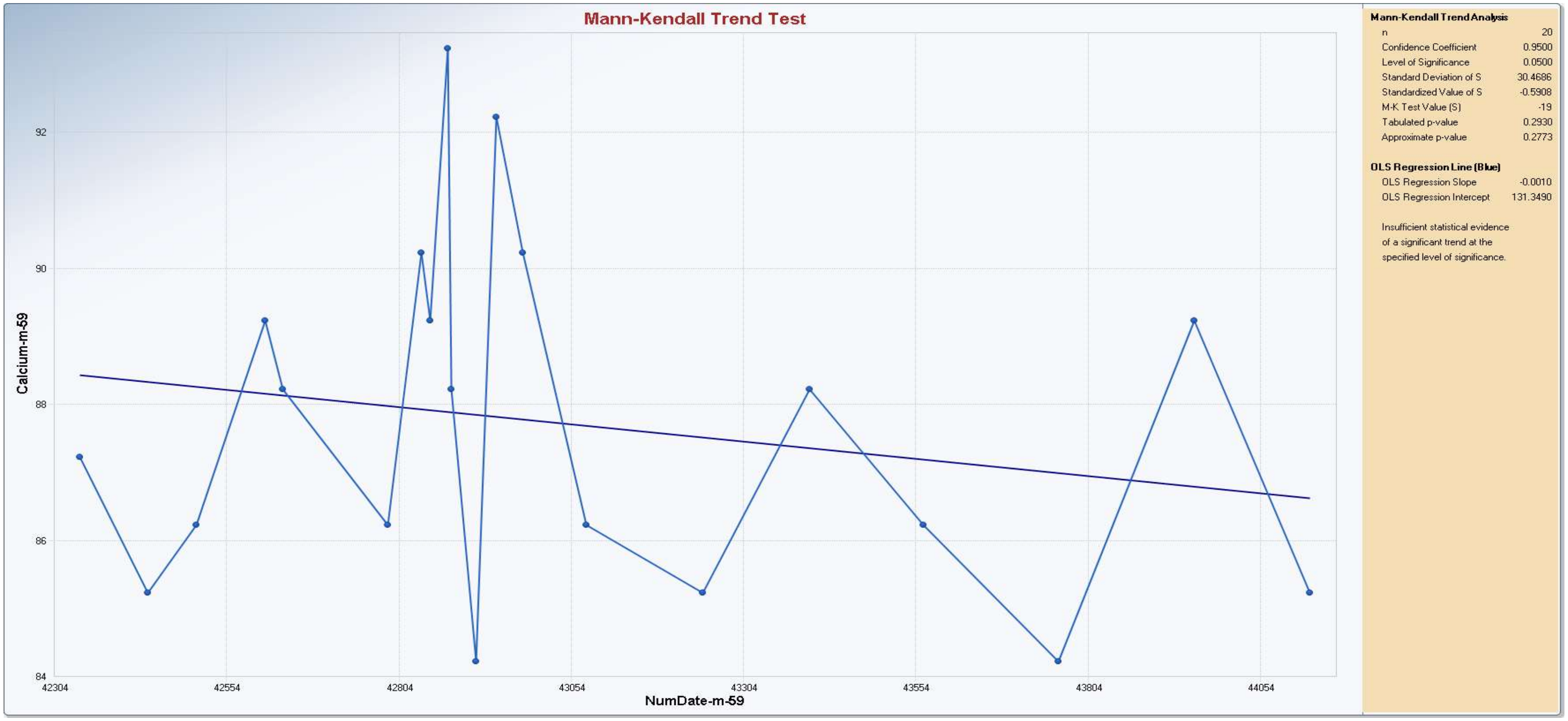
Appendix B
Time Series Plots



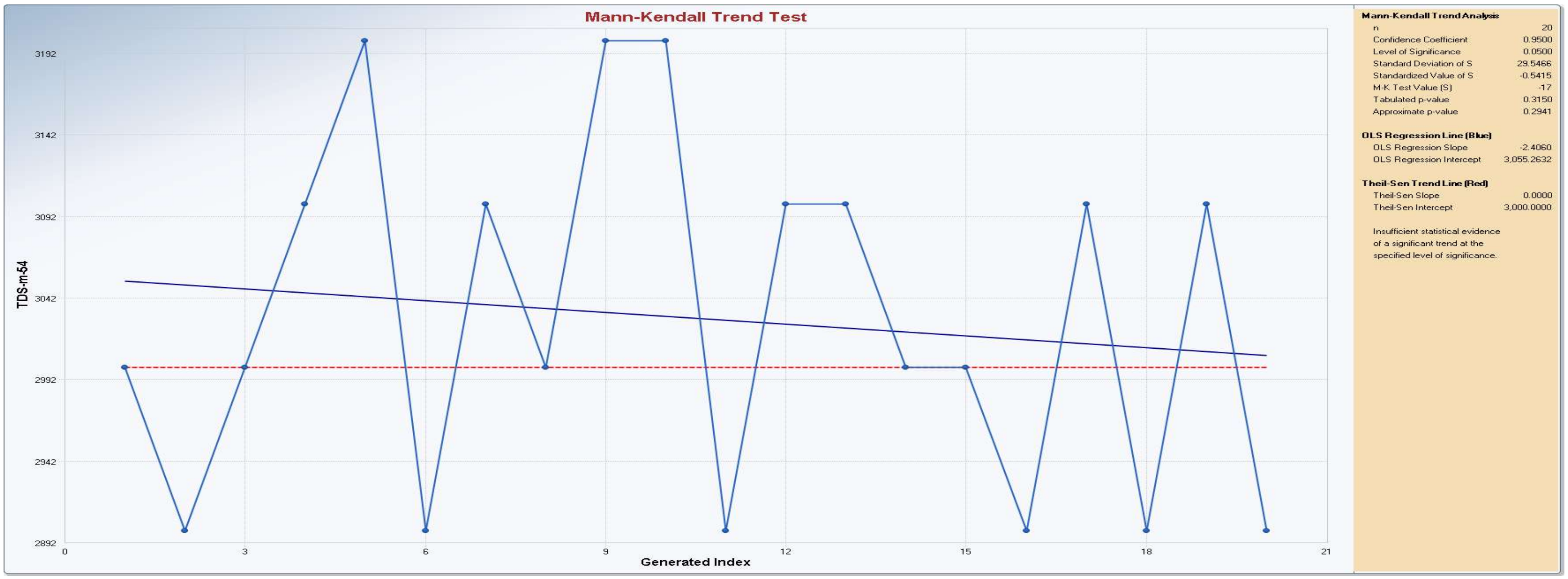
Appendix B
Time Series Plots



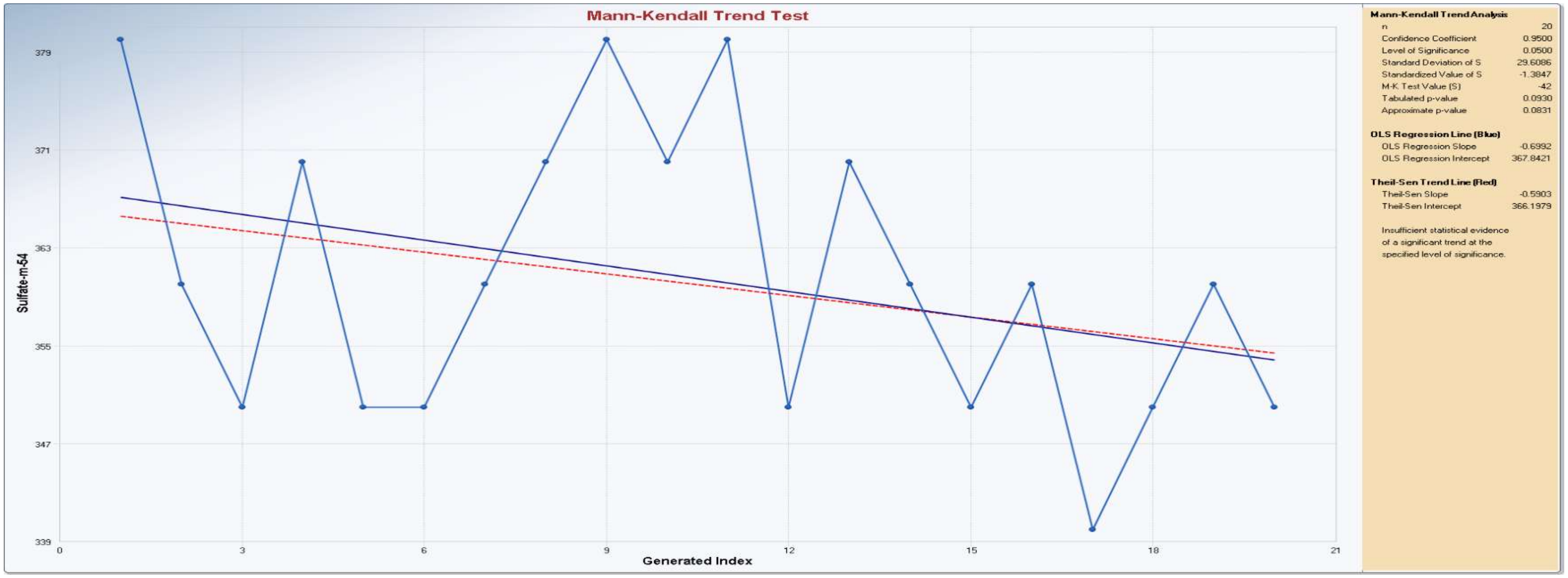
Appendix B
Time Series Plots



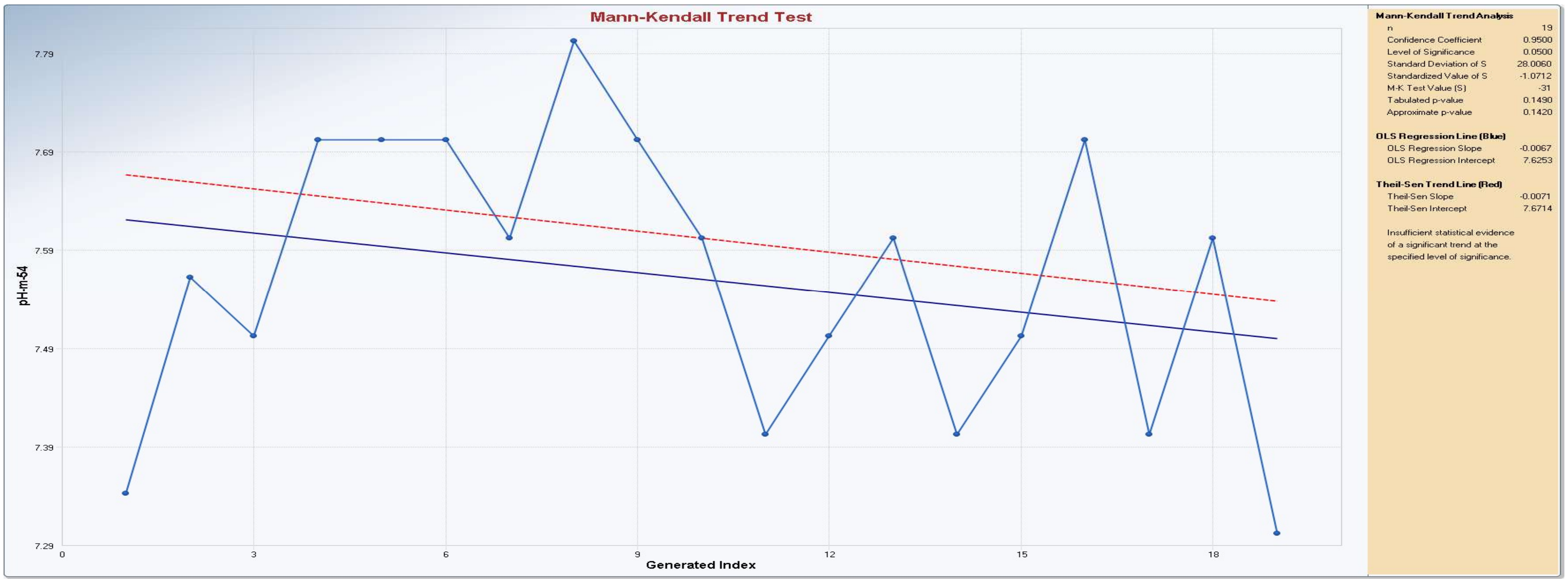
Appendix B
Time Series Plots



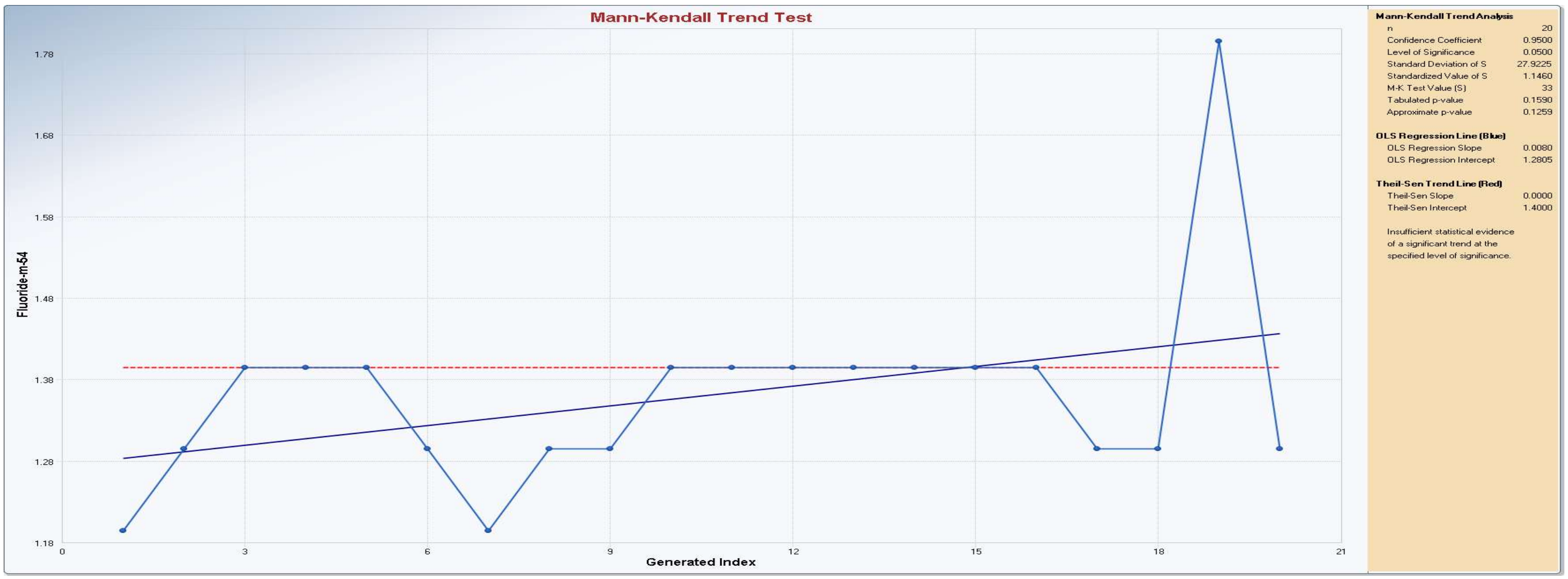
Appendix B
Time Series Plots



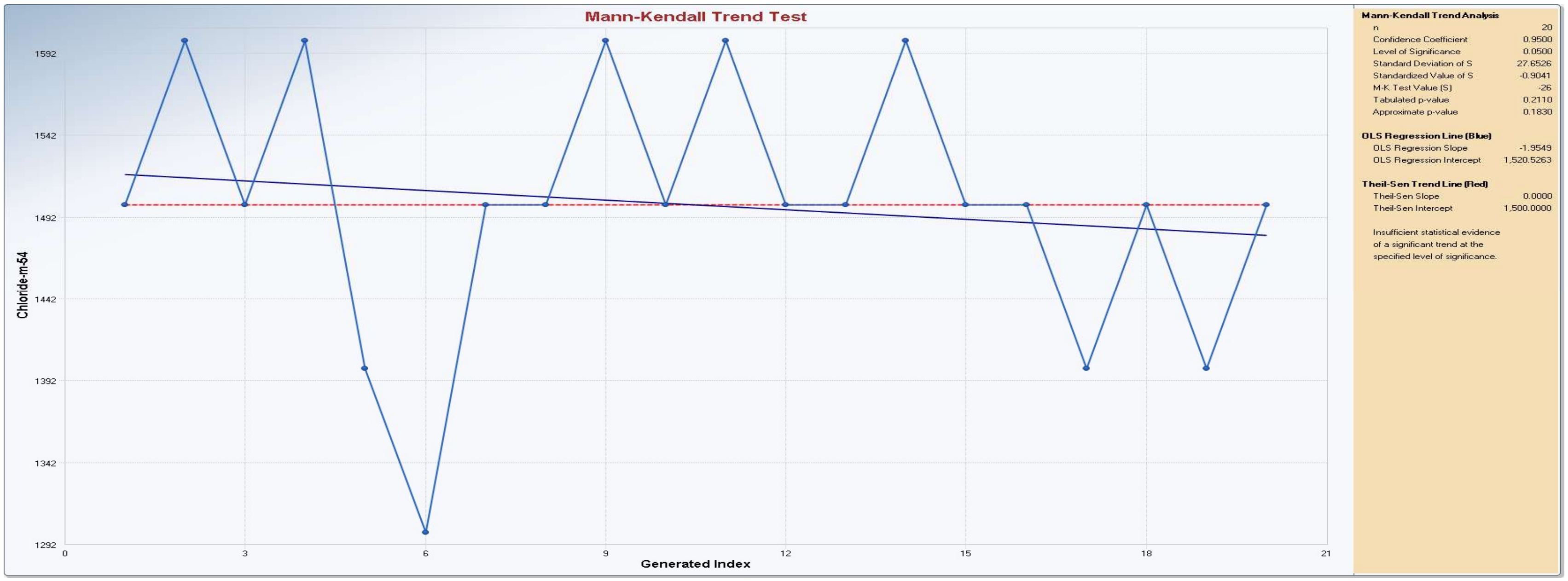
Appendix B
Time Series Plots



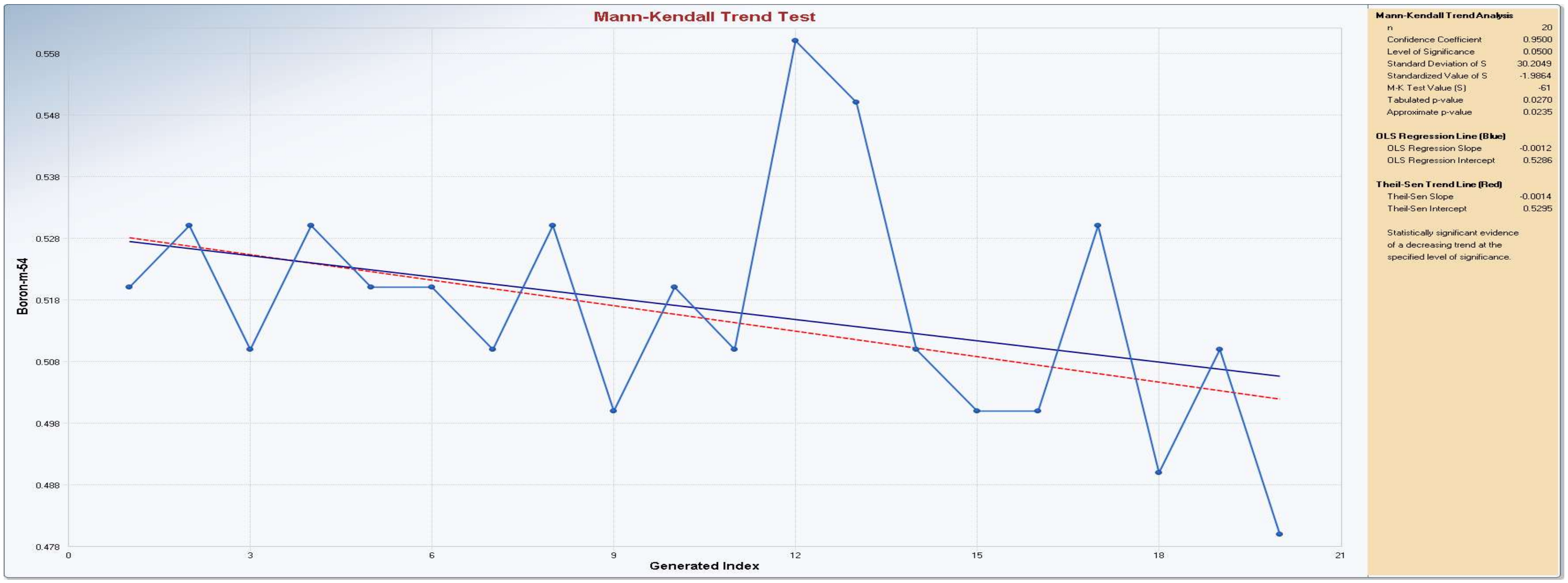
Appendix B
Time Series Plots



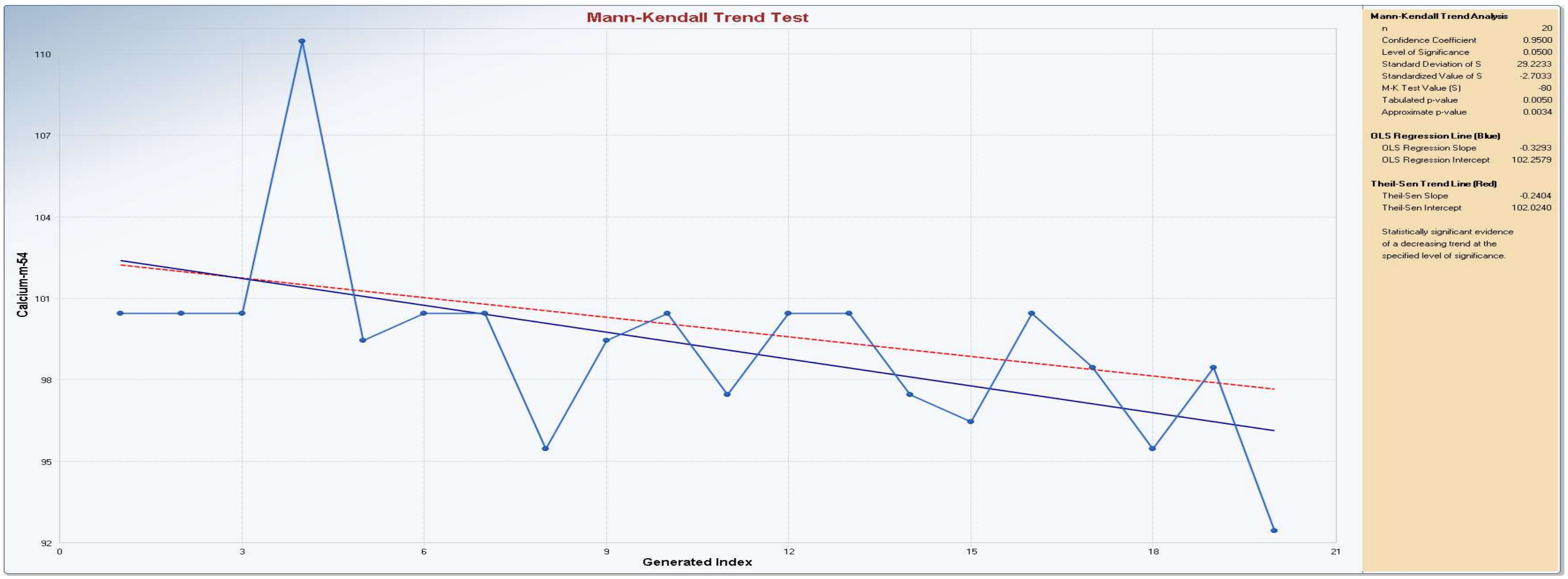
Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 10:41:25 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-m-59	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	0.48
Maximum	0.53
Mean	0.496
Geometric Mean	0.495
Median	0.495
Standard Deviation	0.0136
Coefficient of Variation	0.0274
Mann-Kendall Test	
M-K Test Value (S)	-17
Tabulated p-value	0.315
Standard Deviation of S	29.54
Standardized Value of S	-0.542
Approximate p-value	0.294
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Boron-m-60	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	0.48

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Maximum	0.54
Mean	0.51
Geometric Mean	0.509
Median	0.51
Standard Deviation	0.017
Coefficient of Variation	0.0334
Mann-Kendall Test	
M-K Test Value (S)	-53
Tabulated p-value	0.049
Standard Deviation of S	30.04
Standardized Value of S	-1.731
Approximate p-value	0.0417
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Boron-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	0.48
Maximum	0.52
Mean	0.498
Geometric Mean	0.498
Median	0.5
Standard Deviation	0.0124
Coefficient of Variation	0.0249
Mann-Kendall Test	
M-K Test Value (S)	-35
Tabulated p-value	0.144
Standard Deviation of S	29.46
Standardized Value of S	-1.154
Approximate p-value	0.124

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 10:45:36 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Calcium-m-59	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	84
Maximum	93
Mean	87.5
Geometric Mean	87.47
Median	87.5
Standard Deviation	2.544
Coefficient of Variation	0.0291
Mann-Kendall Test	
M-K Test Value (S)	-19
Tabulated p-value	0.293
Standard Deviation of S	30.47
Standardized Value of S	-0.591
Approximate p-value	0.277
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-m-60	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	82
Maximum	92
Mean	87.2
Geometric Mean	87.16
Median	88
Standard Deviation	2.802
Coefficient of Variation	0.0321
Mann-Kendall Test	
M-K Test Value (S)	-63
Tabulated p-value	0.023
Standard Deviation of S	30.51
Standardized Value of S	-2.032
Approximate p-value	0.0211
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Calcium-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	86
Maximum	94
Mean	89.95
Geometric Mean	89.92
Median	90
Standard Deviation	2.282
Coefficient of Variation	0.0254

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Mann-Kendall Test	
M-K Test Value (S)	-20
Tabulated p-value	0.271
Standard Deviation of S	30.43
Standardized Value of S	-0.624
Approximate p-value	0.266
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 10:48:21 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chloride-m-59	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	1200
Maximum	1400
Mean	1335
Geometric Mean	1333
Median	1350
Standard Deviation	74.52
Coefficient of Variation	0.0558
Mann-Kendall Test	
M-K Test Value (S)	-19
Tabulated p-value	0.293
Standard Deviation of S	27.87
Standardized Value of S	-0.646

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Approximate p-value	0.259
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-m-60	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	1200
Maximum	1500
Mean	1380
Geometric Mean	1378
Median	1400
Standard Deviation	69.59
Coefficient of Variation	0.0504
Mann-Kendall Test	
M-K Test Value (S)	-7
Tabulated p-value	0.436
Standard Deviation of S	25.92
Standardized Value of S	-0.232
Approximate p-value	0.408
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	1100
Maximum	1700

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Mean	1390
Geometric Mean	1386
Median	1400
Standard Deviation	111.9
Coefficient of Variation	0.0805
Mann-Kendall Test	
M-K Test Value (S)	-11
Tabulated p-value	0.387
Standard Deviation of S	26.98
Standardized Value of S	-0.371
Approximate p-value	0.355
Insufficient evidence to identify a significant trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 10:59:59 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Fluoride-m-59	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	1.3
Maximum	1.8
Mean	1.405
Geometric Mean	1.401
Median	1.4
Standard Deviation	0.11
Coefficient of Variation	0.0782

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Mann-Kendall Test	
M-K Test Value (S)	49
Tabulated p-value	0.064
Standard Deviation of S	26.83
Standardized Value of S	1.789
Approximate p-value	0.0368
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Fluoride-m-60	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	1.3
Maximum	1.7
Mean	1.445
Geometric Mean	1.443
Median	1.4
Standard Deviation	0.0826
Coefficient of Variation	0.0571
Mann-Kendall Test	
M-K Test Value (S)	14
Tabulated p-value	0.339
Standard Deviation of S	27.22
Standardized Value of S	0.478
Approximate p-value	0.316
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Fluoride-m-61	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	21
Minimum	1.3

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Maximum	1.6
Mean	1.429
Geometric Mean	1.427
Median	1.4
Standard Deviation	0.0784
Coefficient of Variation	0.0549
Mann-Kendall Test	
M-K Test Value (S)	29
Tabulated p-value	0.21
Standard Deviation of S	30.39
Standardized Value of S	0.921
Approximate p-value	0.178

Insufficient evidence to identify a significant trend at the specified level of significance.

Mann-Kendall Trend Test Analysis

User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 11:15:23 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

pH-m-59

General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	1
Number or Reported Events Used	19
Number Values Reported (n)	20
Number Values Missing	1
Number Values Used	19
Minimum	7.5
Maximum	8.1

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Mean	7.684
Geometric Mean	7.683
Median	7.7
Standard Deviation	0.157
Coefficient of Variation	0.0204
Mann-Kendall Test	
M-K Test Value (S)	-20
Tabulated p-value	0.245
Standard Deviation of S	28.06
Standardized Value of S	-0.677
Approximate p-value	0.249
Insufficient evidence to identify a significant trend at the specified level of significance.	
pH-m-60	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	1
Number or Reported Events Used	19
Number Values Reported (n)	20
Number Values Missing	1
Number Values Used	19
Minimum	7.5
Maximum	8
Mean	7.678
Geometric Mean	7.677
Median	7.7
Standard Deviation	0.131
Coefficient of Variation	0.017
Mann-Kendall Test	
M-K Test Value (S)	-52
Tabulated p-value	0.034
Standard Deviation of S	27.8
Standardized Value of S	-1.835
Approximate p-value	0.0333

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Statistically significant evidence of a decreasing trend at the specified level of significance.	
pH-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	2
Number or Reported Events Used	19
Number Values Reported (n)	21
Number Values Missing	2
Number Values Used	19
Minimum	7.22
Maximum	8
Mean	7.658
Geometric Mean	7.656
Median	7.7
Standard Deviation	0.178
Coefficient of Variation	0.0232
Mann-Kendall Test	
M-K Test Value (S)	-16
Tabulated p-value	0.29
Standard Deviation of S	28.06
Standardized Value of S	-0.535
Approximate p-value	0.296
Insufficient evidence to identify a significant trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 11:19:10 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Sulfate-m-59	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	330
Maximum	370
Mean	348
Geometric Mean	347.9
Median	350
Standard Deviation	10.05
Coefficient of Variation	0.0289
Mann-Kendall Test	
M-K Test Value (S)	20
Tabulated p-value	0.271
Standard Deviation of S	28.93
Standardized Value of S	0.657
Approximate p-value	0.256
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Sulfate-m-60	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	340
Maximum	440
Mean	357.5
Geometric Mean	357
Median	350
Standard Deviation	20.74
Coefficient of Variation	0.058
Mann-Kendall Test	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
M-K Test Value (S)	-1
Tabulated p-value	0.513
Standard Deviation of S	28.21
Standardized Value of S	0
Approximate p-value	0.5
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Sulfate-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	340
Maximum	420
Mean	360.5
Geometric Mean	360
Median	360
Standard Deviation	19.05
Coefficient of Variation	0.0528
Mann-Kendall Test	
M-K Test Value (S)	6
Tabulated p-value	0.436
Standard Deviation of S	29.81
Standardized Value of S	0.168
Approximate p-value	0.433
Insufficient evidence to identify a significant	
trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 11:21:42 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
TDS-m-59	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	2500
Maximum	2900
Mean	2720
Geometric Mean	2718
Median	2700
Standard Deviation	95.15
Coefficient of Variation	0.035
Mann-Kendall Test	
M-K Test Value (S)	-11
Tabulated p-value	0.387
Standard Deviation of S	27.49
Standardized Value of S	-0.364
Approximate p-value	0.358
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
TDS-m-60	
General Statistics	
Number of Events Reported (m)	20
Number of Missing Events	0
Number or Reported Events Used	20
Number Values Reported (n)	20
Minimum	2500
Maximum	3000
Mean	2800
Geometric Mean	2798

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Median	2800
Standard Deviation	107.6
Coefficient of Variation	0.0384
Mann-Kendall Test	
M-K Test Value (S)	12
Tabulated p-value	0.362
Standard Deviation of S	26.99
Standardized Value of S	0.408
Approximate p-value	0.342
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
TDS-m-61	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	2600
Maximum	3000
Mean	2810
Geometric Mean	2808
Median	2800
Standard Deviation	111.9
Coefficient of Variation	0.0398
Mann-Kendall Test	
M-K Test Value (S)	-24
Tabulated p-value	0.23
Standard Deviation of S	29.34
Standardized Value of S	-0.784
Approximate p-value	0.217
Insufficient evidence to identify a significant	
trend at the specified level of significance.	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:16:31 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-m-54	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	0.48
Maximum	0.56
Mean	0.517
Geometric Mean	0.516
Median	0.515
Standard Deviation	0.019
Coefficient of Variation	0.0368
Mann-Kendall Test	
M-K Test Value (S)	-61
Tabulated p-value	0.027
Standard Deviation of S	30.2
Standardized Value of S	-1.986
Approximate p-value	0.0235

Statistically significant evidence of a decreasing trend at the specified level of significance.

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:18:55 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Calcium-m-54	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	92
Maximum	110
Mean	98.8
Geometric Mean	98.74
Median	99.5
Standard Deviation	3.473
Coefficient of Variation	0.0352
Mann-Kendall Test	
M-K Test Value (S)	-80
Tabulated p-value	0.005
Standard Deviation of S	29.22
Standardized Value of S	-2.703
Approximate p-value	0.00343
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:31:12 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Confidence Coefficient	0.95
Level of Significance	0.05
Chloride-m-54	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	1300
Maximum	1600
Mean	1500
Geometric Mean	1498
Median	1500
Standard Deviation	79.47
Coefficient of Variation	0.053
Mann-Kendall Test	
M-K Test Value (S)	-26
Tabulated p-value	0.211
Standard Deviation of S	27.65
Standardized Value of S	-0.904
Approximate p-value	0.183
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:32:03 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Fluoride-m-54	
General Statistics	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	1.2
Maximum	1.8
Mean	1.365
Geometric Mean	1.36
Median	1.4
Standard Deviation	0.123
Coefficient of Variation	0.0898
Mann-Kendall Test	
M-K Test Value (S)	33
Tabulated p-value	0.159
Standard Deviation of S	27.92
Standardized Value of S	1.146
Approximate p-value	0.126

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:33:12 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

pH-m-54

General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	19
Number Values Reported (n)	20
Number Values Missing	1
Number Values Used	19
Minimum	7.3
Maximum	7.8

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
Mean	7.558
Geometric Mean	7.557
Median	7.6
Standard Deviation	0.143
Coefficient of Variation	0.0189
Mann-Kendall Test	
M-K Test Value (S)	-31
Tabulated p-value	0.149
Standard Deviation of S	28.01
Standardized Value of S	-1.071
Approximate p-value	0.142
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:36:55 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Sulfate-m-54	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	340
Maximum	380
Mean	360.5
Geometric Mean	360.3
Median	360
Standard Deviation	11.91
Coefficient of Variation	0.033
Mann-Kendall Test	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20
M-K Test Value (S)	-42
Tabulated p-value	0.093
Standard Deviation of S	29.61
Standardized Value of S	-1.385
Approximate p-value	0.0831
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:37:50 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
TDS-m-54	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	20
Number Values Reported (n)	20
Minimum	2900
Maximum	3200
Mean	3030
Geometric Mean	3028
Median	3000
Standard Deviation	108.1
Coefficient of Variation	0.0357
Mann-Kendall Test	
M-K Test Value (S)	-17
Tabulated p-value	0.315
Standard Deviation of S	29.55
Standardized Value of S	-0.542
Approximate p-value	0.294
Insufficient evidence to identify a significant	

Appendix B
Time Series Statistics

Number of Events Reported (m)	20							
trend at the specified level of significance.								

Appendix B
Outlier Statistics

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:55:08 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF

Dixon's Outlier Test for Boron (m-54)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 0.56 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 0.56 is an outlier.
For 5% significance level, 0.56 is an outlier.
For 1% significance level, 0.56 is not an outlier.

2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.400

For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Dixon's Outlier Test for pH (m-54)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 7.8 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.45
Test Statistic: 0.250

For 10% significance level, 7.8 is not an outlier.
For 5% significance level, 7.8 is not an outlier.
For 1% significance level, 7.8 is not an outlier.

2. Observation Value 7.3 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.250

For 10% significance level, 7.3 is not an outlier.
For 5% significance level, 7.3 is not an outlier.
For 1% significance level, 7.3 is not an outlier.

Dixon's Outlier Test for TDS (m-54)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 3200 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 3200 is not an outlier.
For 5% significance level, 3200 is not an outlier.
For 1% significance level, 3200 is not an outlier.

2. Observation Value 2900 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 2900 is not an outlier.
For 5% significance level, 2900 is not an outlier.
For 1% significance level, 2900 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.45	
	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/25/2021 10:34:22 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_a.xls
Full Precision	OFF

Dixon's Outlier Test for Boron (m-59)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 0.53 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 0.53 is not an outlier.
For 5% significance level, 0.53 is not an outlier.
For 1% significance level, 0.53 is not an outlier.

2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Dixon's Outlier Test for Boron (m-60)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

Appendix B
Outlier Statistics

5% critical value: 0.45
1. Observation Value 0.54 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.200
For 10% significance level, 0.54 is not an outlier.
For 5% significance level, 0.54 is not an outlier.
For 1% significance level, 0.54 is not an outlier.
2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.200
For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.
Dixon's Outlier Test for Boron (m-61)
Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535
1. Observation Value 0.52 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.250
For 10% significance level, 0.52 is not an outlier.
For 5% significance level, 0.52 is not an outlier.
For 1% significance level, 0.52 is not an outlier.
2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.000
For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.45
Dixon's Outlier Test for Calcium (m-59)
Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535
1. Observation Value 93 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.375
For 10% significance level, 93 is not an outlier.
For 5% significance level, 93 is not an outlier.
For 1% significance level, 93 is not an outlier.
2. Observation Value 84 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.167
For 10% significance level, 84 is not an outlier.
For 5% significance level, 84 is not an outlier.
For 1% significance level, 84 is not an outlier.
Dixon's Outlier Test for Calcium (m-60)
Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535
1. Observation Value 92 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.250
For 10% significance level, 92 is not an outlier.
For 5% significance level, 92 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.45
For 1% significance level, 92 is not an outlier.

2. Observation Value 82 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.250

For 10% significance level, 82 is not an outlier.
For 5% significance level, 82 is not an outlier.
For 1% significance level, 82 is not an outlier.

Dixon's Outlier Test for Calcium (m-61)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 94 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.143

For 10% significance level, 94 is not an outlier.
For 5% significance level, 94 is not an outlier.
For 1% significance level, 94 is not an outlier.

2. Observation Value 86 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.143

For 10% significance level, 86 is not an outlier.
For 5% significance level, 86 is not an outlier.
For 1% significance level, 86 is not an outlier.

Dixon's Outlier Test for pH (m-59)

Number of Observations = 19
10% critical value: 0.412

Appendix B
Outlier Statistics

5% critical value: 0.45
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 8.1 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 8.1 is an outlier.
For 5% significance level, 8.1 is an outlier.
For 1% significance level, 8.1 is not an outlier.

2. Observation Value 7.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 7.5 is not an outlier.
For 5% significance level, 7.5 is not an outlier.
For 1% significance level, 7.5 is not an outlier.

Dixon's Outlier Test for pH (m-60)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 8 is not an outlier.
For 5% significance level, 8 is not an outlier.
For 1% significance level, 8 is not an outlier.

2. Observation Value 7.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

Appendix B
Outlier Statistics

5% critical value: 0.45
For 10% significance level, 7.5 is not an outlier.
For 5% significance level, 7.5 is not an outlier.
For 1% significance level, 7.5 is not an outlier.

Dixon's Outlier Test for pH (m-61)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 8 is not an outlier.
For 5% significance level, 8 is not an outlier.
For 1% significance level, 8 is not an outlier.

2. Observation Value 7.22 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.483

For 10% significance level, 7.22 is an outlier.
For 5% significance level, 7.22 is an outlier.
For 1% significance level, 7.22 is not an outlier.

Dixon's Outlier Test for Sulfate (m-59)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 370 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.333

Appendix B
Outlier Statistics

5% critical value: 0.45

For 10% significance level, 370 is not an outlier.
For 5% significance level, 370 is not an outlier.
For 1% significance level, 370 is not an outlier.

2. Observation Value 330 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.333

For 10% significance level, 330 is not an outlier.
For 5% significance level, 330 is not an outlier.
For 1% significance level, 330 is not an outlier.

Dixon's Outlier Test for Sulfate (m-60)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 440 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.889

For 10% significance level, 440 is an outlier.
For 5% significance level, 440 is an outlier.
For 1% significance level, 440 is an outlier.

2. Observation Value 340 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.500

For 10% significance level, 340 is an outlier.
For 5% significance level, 340 is an outlier.
For 1% significance level, 340 is not an outlier.

Dixon's Outlier Test for Sulfate (m-61)

Appendix B
Outlier Statistics

5% critical value: 0.45

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 420 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

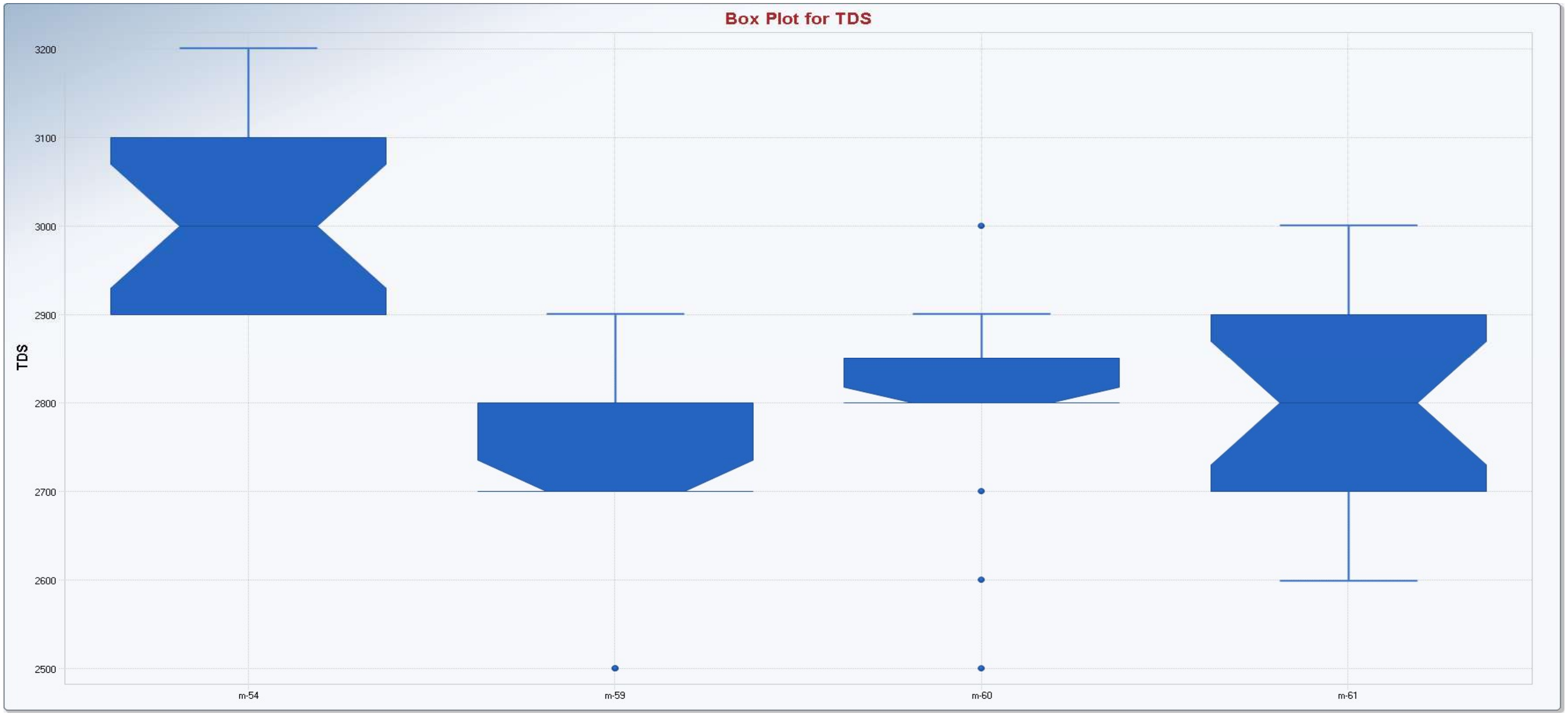
For 10% significance level, 420 is an outlier.
For 5% significance level, 420 is an outlier.
For 1% significance level, 420 is not an outlier.

2. Observation Value 340 is a Potential Outlier (Lower Tail)?

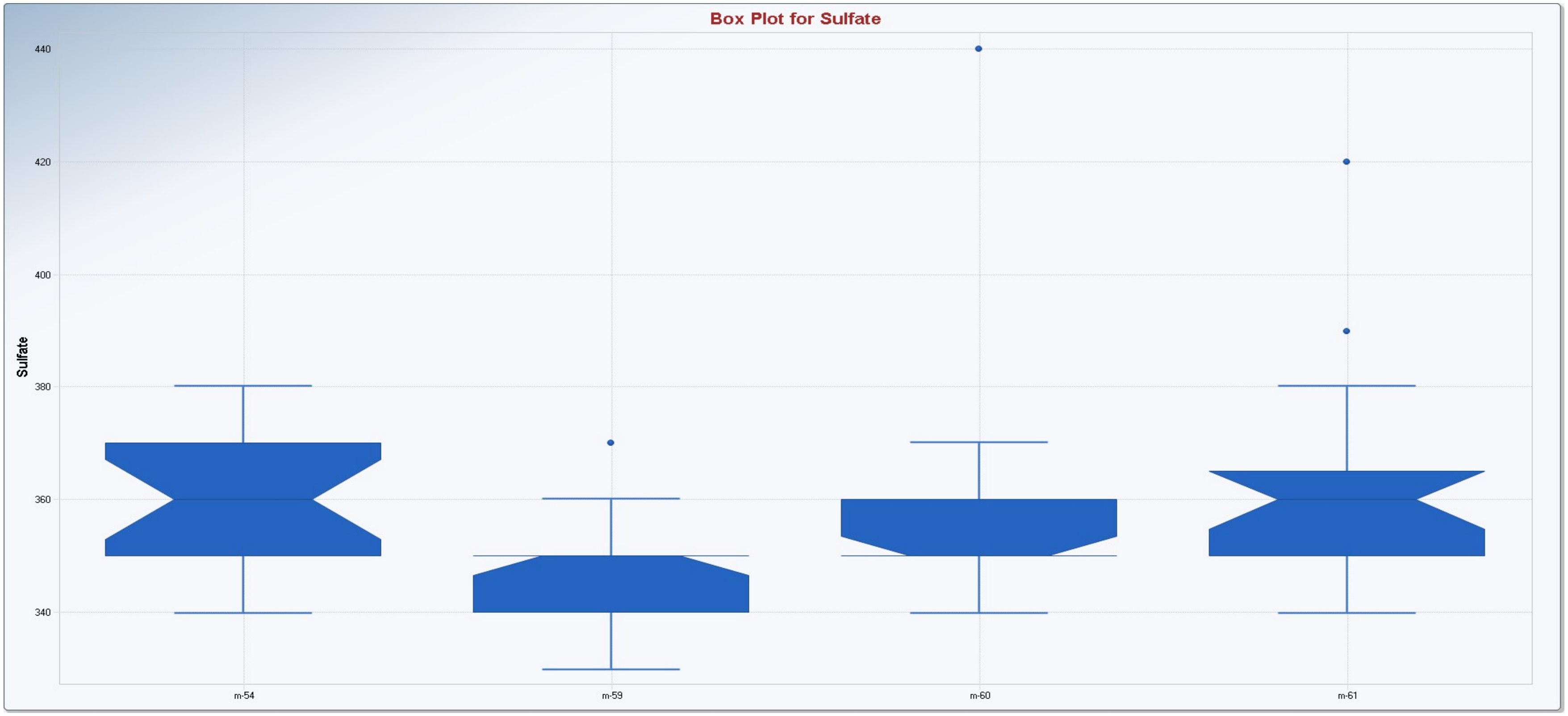
Test Statistic: 0.000

For 10% significance level, 340 is not an outlier.
For 5% significance level, 340 is not an outlier.
For 1% significance level, 340 is not an outlier.

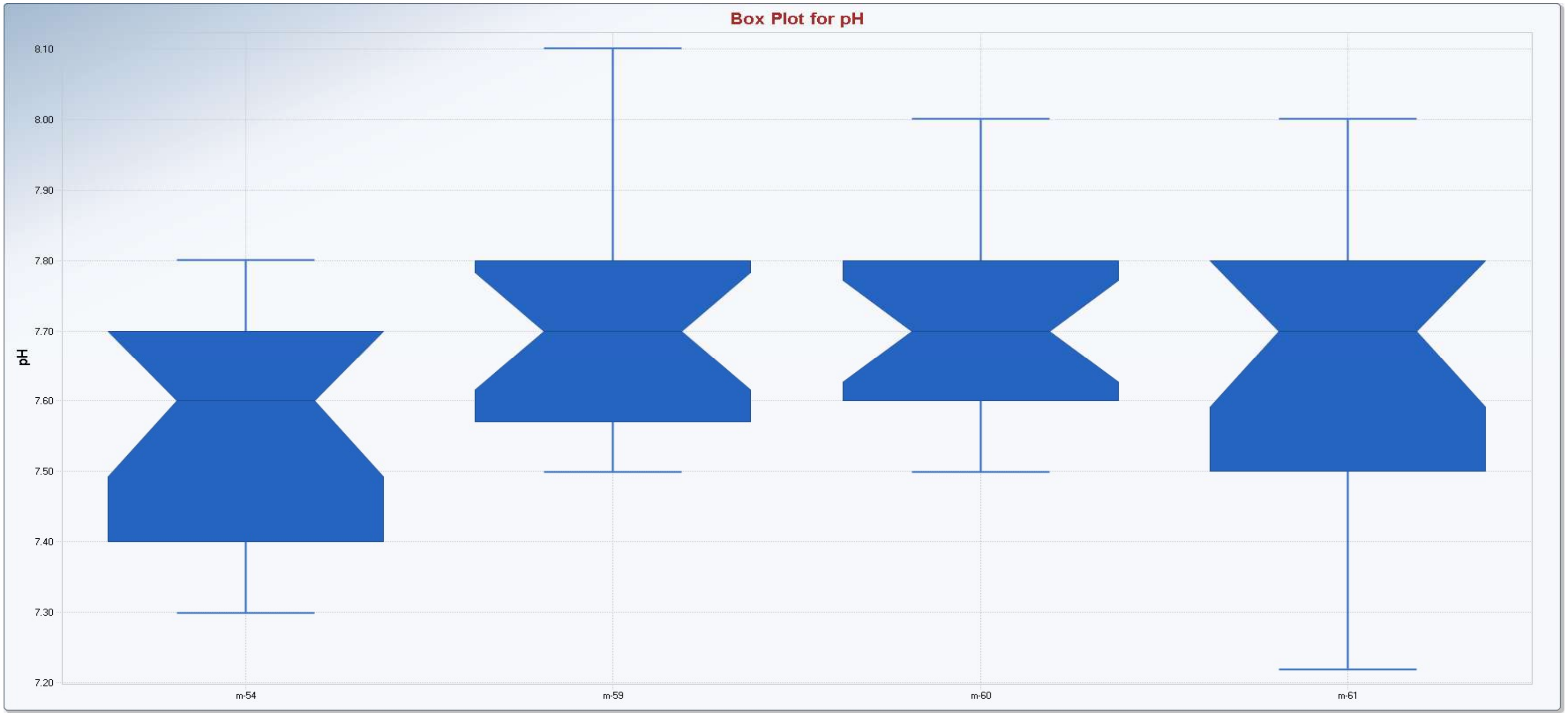
Appendix B
Box and Whisker Plots



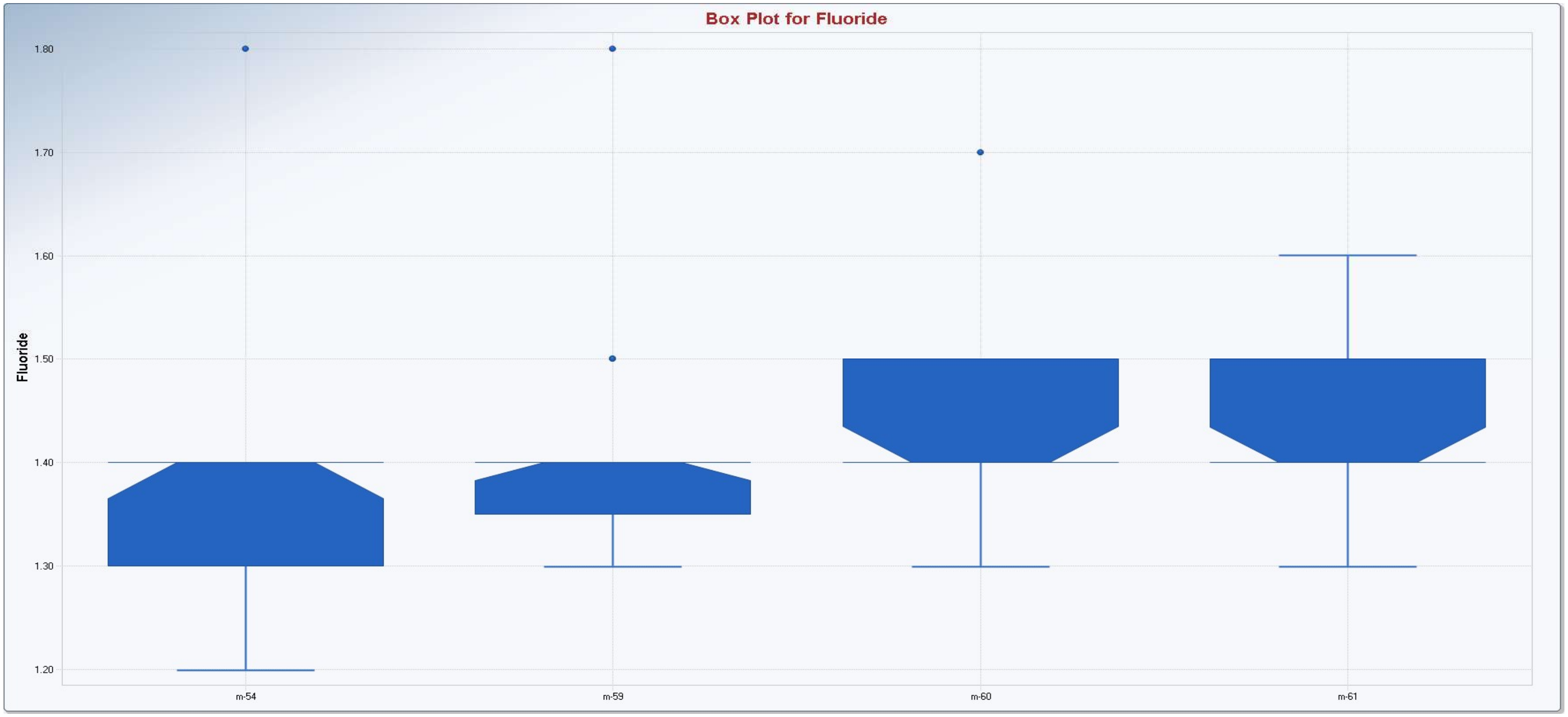
Appendix B
Box and Whisker Plots



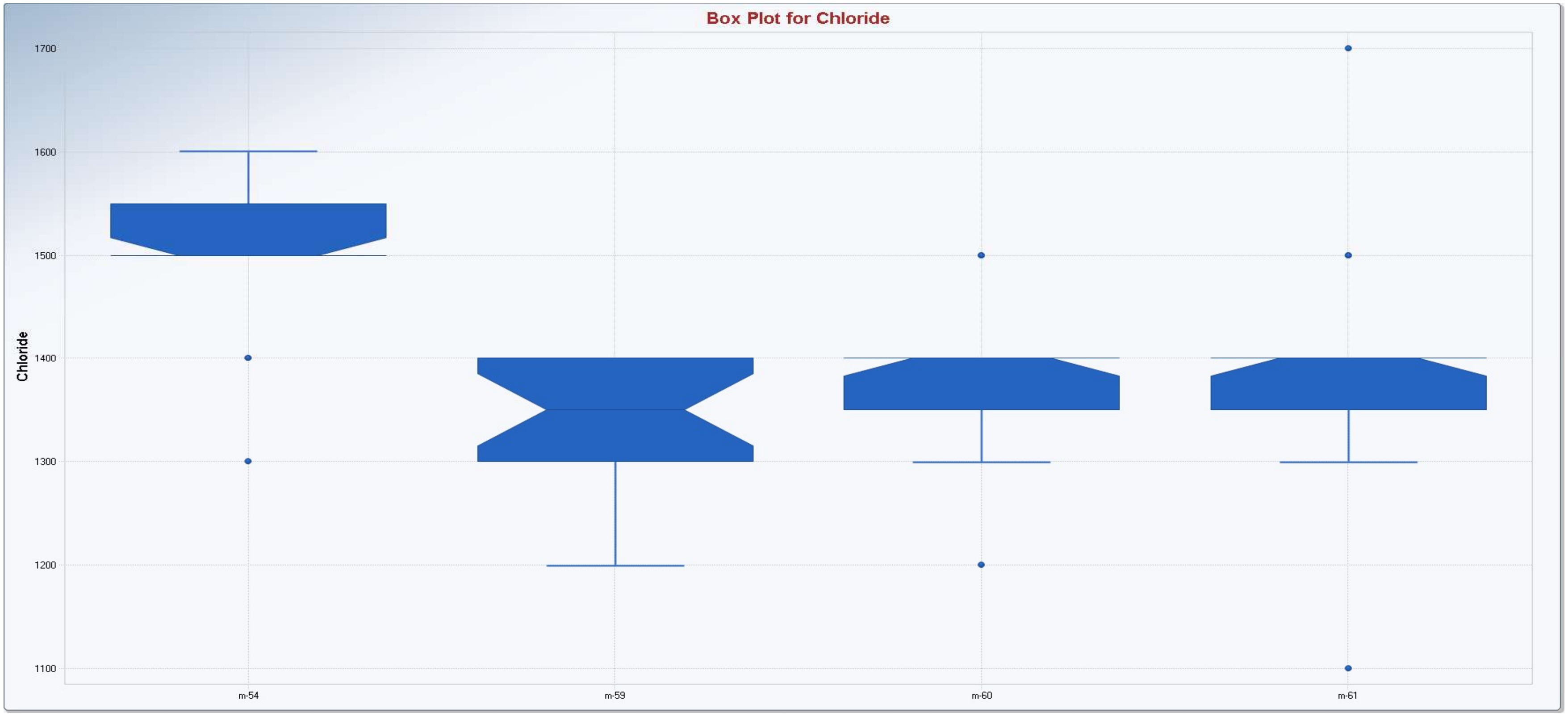
Appendix B
Box and Whisker Plots



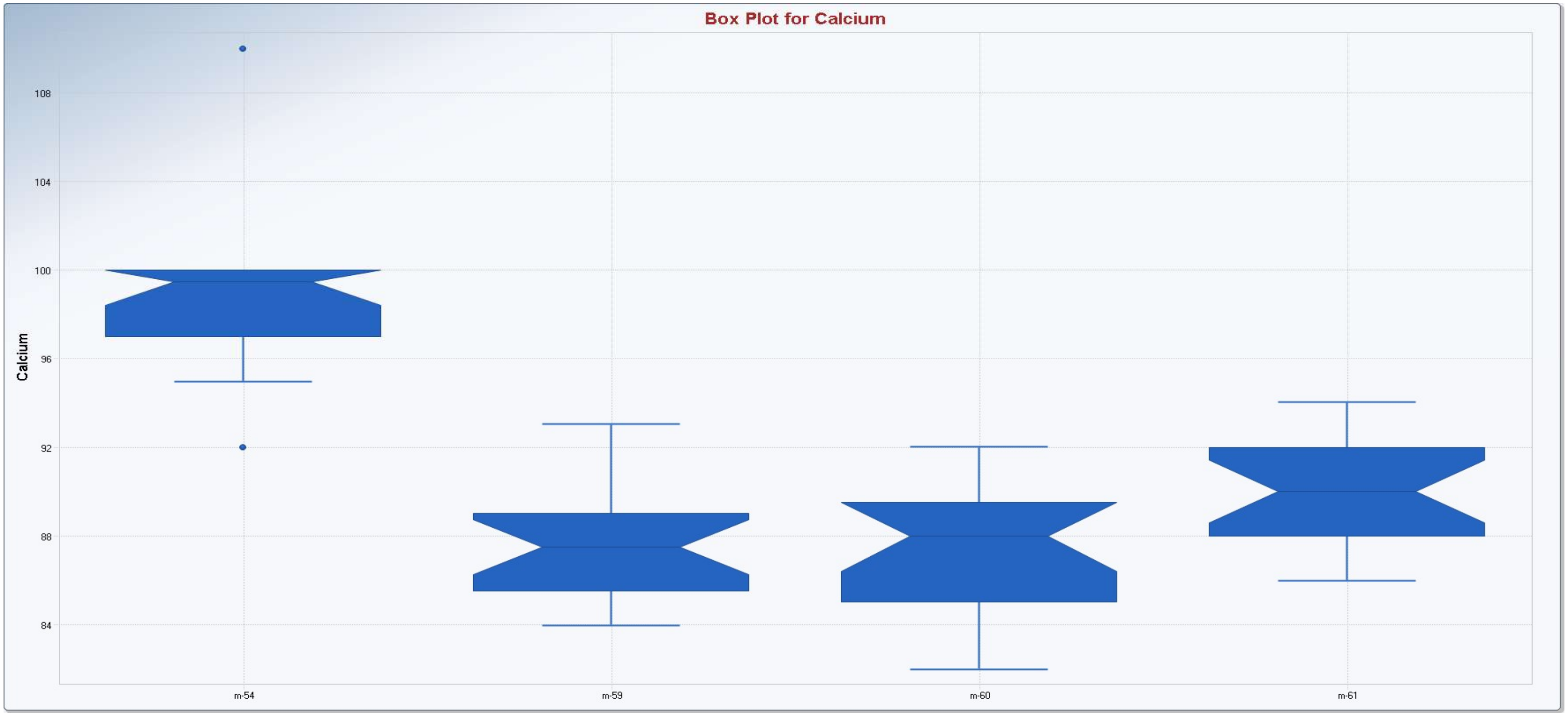
Appendix B
Box and Whisker Plots



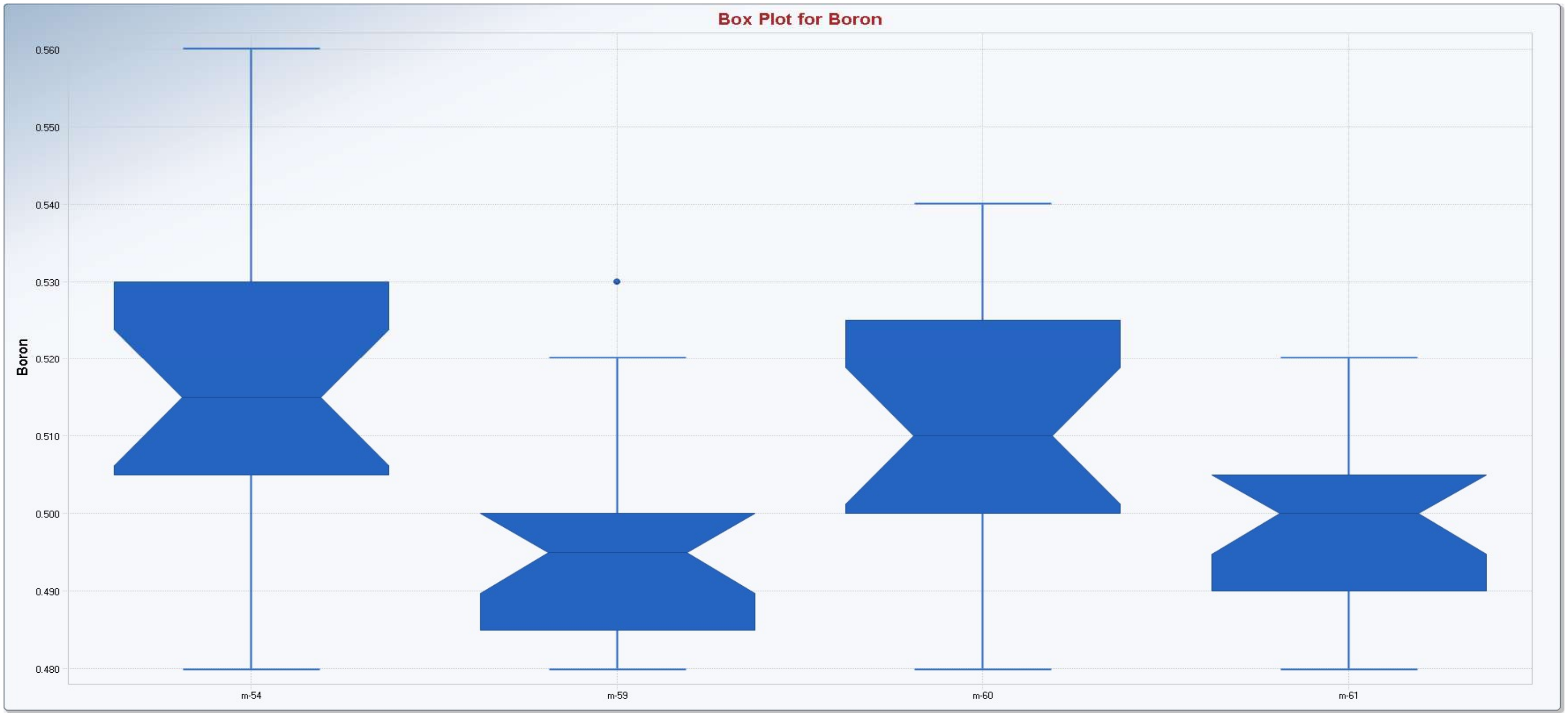
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:48:00 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021.xls
Full Precision	OFF
Confidence Coefficient	0.95

Boron (m-54)

Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	8
Minimum	0.48
Maximum	0.56
Mean of Raw Data	0.517
Standard Deviation of Raw Data	0.019
Khat	784
Theta hat	6.5881E-4
Kstar	666.4
Theta star	7.7503E-4
Mean of Log Transformed Data	-0.661
Standard Deviation of Log Transformed Data	0.0366

Normal GOF Test Results	
Correlation Coefficient R	0.976
Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.52
Lilliefors Test Statistic	0.139
Lilliefors Critical (0.05) Value	0.192

Data appear Normal at (0.05) Significance Level

Gamma GOF Test Results	
Correlation Coefficient R	0.978
A-D Test Statistic	0.398
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.134

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.978
Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.6
Lilliefors Test Statistic	0.135
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
Boron (m-59)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	6
Minimum	0.48
Maximum	0.53
Mean of Raw Data	0.496
Standard Deviation of Raw Data	0.0136
Khat	1425
Theta hat	3.4762E-4
Kstar	1212
Theta star	4.0895E-4
Mean of Log Transformed Data	-0.703
Standard Deviation of Log Transformed Data	0.0271
Normal GOF Test Results	
Correlation Coefficient R	0.937
Shapiro Wilk Test Statistic	0.877
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0153
Lilliefors Test Statistic	0.22
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Gamma GOF Test Results	
Correlation Coefficient R	0.94
A-D Test Statistic	0.891
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.213
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.94
Shapiro Wilk Test Statistic	0.882
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0191
Lilliefors Test Statistic	0.214
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Boron (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	7
Minimum	0.48
Maximum	0.54
Mean of Raw Data	0.51
Standard Deviation of Raw Data	0.017
Khat	944.2
Theta hat	5.3963E-4
Kstar	802.6
Theta star	6.3483E-4
Mean of Log Transformed Data	-0.675
Standard Deviation of Log Transformed Data	0.0334

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20						
Normal GOF Test Results							
Correlation Coefficient R	0.974						
Shapiro Wilk Test Statistic	0.94						
Shapiro Wilk Critical (0.05) Value	0.905						
Approximate Shapiro Wilk P Value	0.263						
Lilliefors Test Statistic	0.162						
Lilliefors Critical (0.05) Value	0.192						
Data appear Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.973						
A-D Test Statistic	0.559						
A-D Critical (0.05) Value	0.74						
K-S Test Statistic	0.164						
K-S Critical(0.05) Value	0.193						
Data appear Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.973						
Shapiro Wilk Test Statistic	0.94						
Shapiro Wilk Critical (0.05) Value	0.905						
Approximate Shapiro Wilk P Value	0.261						
Lilliefors Test Statistic	0.158						
Lilliefors Critical (0.05) Value	0.192						
Data appear Lognormal at (0.05) Significance Level							
Boron (m-61)							
Raw Statistics							
Number of Valid Observations	20						
Number of Missing Observations	1						
Number of Distinct Observations	5						
Minimum	0.48						
Maximum	0.52						
Mean of Raw Data	0.498						
Standard Deviation of Raw Data	0.0124						

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Khat	1699
Theta hat	2.9311E-4
Kstar	1444
Theta star	3.4483E-4
Mean of Log Transformed Data	-0.697
Standard Deviation of Log Transformed Data	0.0249
Normal GOF Test Results	
Correlation Coefficient R	0.959
Shapiro Wilk Test Statistic	0.907
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0609
Lilliefors Test Statistic	0.214
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.958
A-D Test Statistic	0.812
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.219
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.958
Shapiro Wilk Test Statistic	0.906
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0593
Lilliefors Test Statistic	0.219
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate_Lognormal at (0.05) Significance Level	
Calcium (m-54)	
Raw Statistics	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Number of Valid Observations	20
Number of Distinct Observations	8
Minimum	92
Maximum	110
Mean of Raw Data	98.8
Standard Deviation of Raw Data	3.473
Khat	873.3
Theta hat	0.113
Kstar	742.3
Theta star	0.133
Mean of Log Transformed Data	4.593
Standard Deviation of Log Transformed Data	0.0345
Normal GOF Test Results	
Correlation Coefficient R	0.877
Shapiro Wilk Test Statistic	0.801
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	5.0383E-4
Lilliefors Test Statistic	0.315
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.883
A-D Test Statistic	1.404
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.306
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.886
Shapiro Wilk Test Statistic	0.817
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	9.5694E-4
Lilliefors Test Statistic	0.307

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Calcium (m-59)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	9
Minimum	84
Maximum	93
Mean of Raw Data	87.5
Standard Deviation of Raw Data	2.544
Khat	1256
Theta hat	0.0697
Kstar	1067
Theta star	0.082
Mean of Log Transformed Data	4.471
Standard Deviation of Log Transformed Data	0.0289
Normal GOF Test Results	
Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.309
Lilliefors Test Statistic	0.172
Lilliefors Critical (0.05) Value	0.192
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.977
A-D Test Statistic	0.415
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.177

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.977
Shapiro Wilk Test Statistic	0.947
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.35
Lilliefors Test Statistic	0.171
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
Calcium (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	10
Minimum	82
Maximum	92
Mean of Raw Data	87.2
Standard Deviation of Raw Data	2.802
Khat	1015
Theta hat	0.0859
Kstar	863
Theta star	0.101
Mean of Log Transformed Data	4.468
Standard Deviation of Log Transformed Data	0.0322
Normal GOF Test Results	
Correlation Coefficient R	0.987
Shapiro Wilk Test Statistic	0.965
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.683
Lilliefors Test Statistic	0.162
Lilliefors Critical (0.05) Value	0.192
Data appear Normal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Gamma GOF Test Results	
Correlation Coefficient R	0.985
A-D Test Statistic	0.353
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.169
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.986
Shapiro Wilk Test Statistic	0.964
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.656
Lilliefors Test Statistic	0.167
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
Calcium (m-61)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	1
Number of Distinct Observations	9
Minimum	86
Maximum	94
Mean of Raw Data	89.95
Standard Deviation of Raw Data	2.282
Khat	1636
Theta hat	0.055
Kstar	1390
Theta star	0.0647
Mean of Log Transformed Data	4.499
Standard Deviation of Log Transformed Data	0.0254
Normal GOF Test Results	
Correlation Coefficient R	0.984

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.567
Lilliefors Test Statistic	0.154
Lilliefors Critical (0.05) Value	0.192
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.983
A-D Test Statistic	0.384
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.16
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.984
Shapiro Wilk Test Statistic	0.959
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.568
Lilliefors Test Statistic	0.153
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
Chloride (m-54)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	1300
Maximum	1600
Mean of Raw Data	1500
Standard Deviation of Raw Data	79.47
Khat	365.3
Theta hat	4.106
Kstar	310.5
Theta star	4.83

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Mean of Log Transformed Data	7.312
Standard Deviation of Log Transformed Data	0.0541
Normal GOF Test Results	
Correlation Coefficient R	0.911
Shapiro Wilk Test Statistic	0.833
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.00212
Lilliefors Test Statistic	0.3
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.907
A-D Test Statistic	1.624
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.307
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.906
Shapiro Wilk Test Statistic	0.826
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.00156
Lilliefors Test Statistic	0.31
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (m-59)	
Raw Statistics	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20						
Number of Valid Observations	20						
Number of Distinct Observations	3						
Minimum	1200						
Maximum	1400						
Mean of Raw Data	1335						
Standard Deviation of Raw Data	74.52						
Khat	329.2						
Theta hat	4.055						
Kstar	279.9						
Theta star	4.77						
Mean of Log Transformed Data	7.195						
Standard Deviation of Log Transformed Data	0.0569						
Normal GOF Test Results							
Correlation Coefficient R	0.884						
Shapiro Wilk Test Statistic	0.765						
Shapiro Wilk Critical (0.05) Value	0.905						
Approximate Shapiro Wilk P Value	1.5477E-4						
Lilliefors Test Statistic	0.308						
Lilliefors Critical (0.05) Value	0.192						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.875						
A-D Test Statistic	2.062						
A-D Critical (0.05) Value	0.74						
K-S Test Statistic	0.313						
K-S Critical(0.05) Value	0.193						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.883						
Shapiro Wilk Test Statistic	0.763						
Shapiro Wilk Critical (0.05) Value	0.905						
Approximate Shapiro Wilk P Value	1.4183E-4						
Lilliefors Test Statistic	0.306						

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20						
Lilliefors Critical (0.05) Value	0.192						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Chloride (m-60)							
Raw Statistics							
Number of Valid Observations	20						
Number of Distinct Observations	4						
Minimum	1200						
Maximum	1500						
Mean of Raw Data	1380						
Standard Deviation of Raw Data	69.59						
Khat	403						
Theta hat	3.424						
Kstar	342.6						
Theta star	4.028						
Mean of Log Transformed Data	7.229						
Standard Deviation of Log Transformed Data	0.0515						
Normal GOF Test Results							
Correlation Coefficient R	0.88						
Shapiro Wilk Test Statistic	0.79						
Shapiro Wilk Critical (0.05) Value	0.905						
Approximate Shapiro Wilk P Value	3.3458E-4						
Lilliefors Test Statistic	0.363						
Lilliefors Critical (0.05) Value	0.192						
Data not Normal at (0.05) Significance Level							
Gamma GOF Test Results							
Correlation Coefficient R	0.879						
A-D Test Statistic	2.341						
A-D Critical (0.05) Value	0.74						
K-S Test Statistic	0.37						

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.875
Shapiro Wilk Test Statistic	0.783
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	2.4914E-4
Lilliefors Test Statistic	0.369
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (m-61)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	1
Number of Distinct Observations	5
Minimum	1100
Maximum	1700
Mean of Raw Data	1390
Standard Deviation of Raw Data	111.9
Khat	161.2
Theta hat	8.621
Kstar	137.1
Theta star	10.14
Mean of Log Transformed Data	7.234
Standard Deviation of Log Transformed Data	0.0812
Normal GOF Test Results	
Correlation Coefficient R	0.876
Shapiro Wilk Test Statistic	0.803
Shapiro Wilk Critical (0.05) Value	0.905

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Approximate Shapiro Wilk P Value	5.2473E-4
Lilliefors Test Statistic	0.314
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.882
A-D Test Statistic	1.935
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.303
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.874
Shapiro Wilk Test Statistic	0.801
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	4.7287E-4
Lilliefors Test Statistic	0.3
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-54)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	1.2
Maximum	1.8
Mean of Raw Data	1.365
Standard Deviation of Raw Data	0.123
Khat	144.3
Theta hat	0.00946

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Kstar	122.7
Theta star	0.0111
Mean of Log Transformed Data	0.308
Standard Deviation of Log Transformed Data	0.0835
Normal GOF Test Results	
Correlation Coefficient R	0.818
Shapiro Wilk Test Statistic	0.698
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	1.0163E-5
Lilliefors Test Statistic	0.338
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.831
A-D Test Statistic	1.9
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.32
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.847
Shapiro Wilk Test Statistic	0.745
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	5.6581E-5
Lilliefors Test Statistic	0.315
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-59)	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.8
Mean of Raw Data	1.405
Standard Deviation of Raw Data	0.11
Khat	190.5
Theta hat	0.00738
Kstar	162
Theta star	0.00868
Mean of Log Transformed Data	0.337
Standard Deviation of Log Transformed Data	0.0726
Normal GOF Test Results	
Correlation Coefficient R	0.799
Shapiro Wilk Test Statistic	0.663
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	2.9520E-6
Lilliefors Test Statistic	0.368
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.814
A-D Test Statistic	2.307
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.36
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.823
Shapiro Wilk Test Statistic	0.7
Shapiro Wilk Critical (0.05) Value	0.905

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Approximate Shapiro Wilk P Value	1.0858E-5
Lilliefors Test Statistic	0.355
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.7
Mean of Raw Data	1.445
Standard Deviation of Raw Data	0.0826
Khat	336.4
Theta hat	0.0043
Kstar	286
Theta star	0.00505
Mean of Log Transformed Data	0.367
Standard Deviation of Log Transformed Data	0.0554
Normal GOF Test Results	
Correlation Coefficient R	0.862
Shapiro Wilk Test Statistic	0.768
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	1.4399E-4
Lilliefors Test Statistic	0.307
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.871
A-D Test Statistic	1.997

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.312
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.872
Shapiro Wilk Test Statistic	0.785
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	2.7829E-4
Lilliefors Test Statistic	0.307
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-61)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.6
Mean of Raw Data	1.429
Standard Deviation of Raw Data	0.0784
Khat	349
Theta hat	0.00409
Kstar	299.2
Theta star	0.00477
Mean of Log Transformed Data	0.355
Standard Deviation of Log Transformed Data	0.0549
Normal GOF Test Results	
Correlation Coefficient R	0.93
Shapiro Wilk Test Statistic	0.865

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.00649
Lilliefors Test Statistic	0.261
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.93
A-D Test Statistic	1.48
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.259
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.93
Shapiro Wilk Test Statistic	0.865
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.0063
Lilliefors Test Statistic	0.253
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
pH (m-54)	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	8
Minimum	7.3
Maximum	7.8
Mean of Raw Data	7.558
Standard Deviation of Raw Data	0.143

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Khat	2961
Theta hat	0.00255
Kstar	2493
Theta star	0.00303
Mean of Log Transformed Data	2.022
Standard Deviation of Log Transformed Data	0.0189
Normal GOF Test Results	
Correlation Coefficient R	0.975
Shapiro Wilk Test Statistic	0.942
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.318
Lilliefors Test Statistic	0.156
Lilliefors Critical (0.05) Value	0.197
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.973
A-D Test Statistic	0.526
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.163
K-S Critical(0.05) Value	0.198
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.974
Shapiro Wilk Test Statistic	0.941
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.306
Lilliefors Test Statistic	0.156
Lilliefors Critical (0.05) Value	0.197
Data appear Lognormal at (0.05) Significance Level	
pH (m-59)	
Raw Statistics	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	8
Minimum	7.5
Maximum	8.1
Mean of Raw Data	7.684
Standard Deviation of Raw Data	0.157
Khat	2573
Theta hat	0.00299
Kstar	2167
Theta star	0.00355
Mean of Log Transformed Data	2.039
Standard Deviation of Log Transformed Data	0.0202
Normal GOF Test Results	
Correlation Coefficient R	0.951
Shapiro Wilk Test Statistic	0.905
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.0617
Lilliefors Test Statistic	0.178
Lilliefors Critical (0.05) Value	0.197
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.953
A-D Test Statistic	0.587
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.189
K-S Critical(0.05) Value	0.198
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.953
Shapiro Wilk Test Statistic	0.91
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.0758

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Lilliefors Test Statistic	0.178
Lilliefors Critical (0.05) Value	0.197
Data appear Lognormal at (0.05) Significance Level	
pH (m-60)	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	7
Minimum	7.5
Maximum	8
Mean of Raw Data	7.678
Standard Deviation of Raw Data	0.131
Khat	3662
Theta hat	0.0021
Kstar	3084
Theta star	0.00249
Mean of Log Transformed Data	2.038
Standard Deviation of Log Transformed Data	0.017
Normal GOF Test Results	
Correlation Coefficient R	0.963
Shapiro Wilk Test Statistic	0.928
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.166
Lilliefors Test Statistic	0.171
Lilliefors Critical (0.05) Value	0.197
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.964
A-D Test Statistic	0.559
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.167
K-S Critical(0.05) Value	0.198
Data appear Gamma Distributed at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Lognormal GOF Test Results	
Correlation Coefficient R	0.965
Shapiro Wilk Test Statistic	0.93
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.183
Lilliefors Test Statistic	0.168
Lilliefors Critical (0.05) Value	0.197
Data appear Lognormal at (0.05) Significance Level	
pH (m-61)	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	2
Number of Distinct Observations	8
Minimum	7.22
Maximum	8
Mean of Raw Data	7.658
Standard Deviation of Raw Data	0.178
Khat	1944
Theta hat	0.00394
Kstar	1637
Theta star	0.00468
Mean of Log Transformed Data	2.036
Standard Deviation of Log Transformed Data	0.0233
Normal GOF Test Results	
Correlation Coefficient R	0.971
Shapiro Wilk Test Statistic	0.954
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.446
Lilliefors Test Statistic	0.134
Lilliefors Critical (0.05) Value	0.197
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Correlation Coefficient R	0.972
A-D Test Statistic	0.408
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.128
K-S Critical(0.05) Value	0.198
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.969
Shapiro Wilk Test Statistic	0.951
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	0.39
Lilliefors Test Statistic	0.136
Lilliefors Critical (0.05) Value	0.197
Data appear Lognormal at (0.05) Significance Level	
Sulfate (m-54)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	5
Minimum	340
Maximum	380
Mean of Raw Data	360.5
Standard Deviation of Raw Data	11.91
Khat	969.6
Theta hat	0.372
Kstar	824.2
Theta star	0.437
Mean of Log Transformed Data	5.887
Standard Deviation of Log Transformed Data	0.0329
Normal GOF Test Results	
Correlation Coefficient R	0.953
Shapiro Wilk Test Statistic	0.899
Shapiro Wilk Critical (0.05) Value	0.905

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Approximate Shapiro Wilk P Value	0.0438
Lilliefors Test Statistic	0.211
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.953
A-D Test Statistic	0.916
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.217
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.954
Shapiro Wilk Test Statistic	0.901
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0483
Lilliefors Test Statistic	0.211
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (m-59)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	5
Minimum	330
Maximum	370
Mean of Raw Data	348
Standard Deviation of Raw Data	10.05
Khat	1262
Theta hat	0.276

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Kstar	1073
Theta star	0.324
Mean of Log Transformed Data	5.852
Standard Deviation of Log Transformed Data	0.0289
Normal GOF Test Results	
Correlation Coefficient R	0.954
Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0793
Lilliefors Test Statistic	0.229
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.956
A-D Test Statistic	0.939
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.234
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.954
Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0795
Lilliefors Test Statistic	0.234
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate_Lognormal at (0.05) Significance Level	
Sulfate (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	5

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Minimum	340
Maximum	440
Mean of Raw Data	357.5
Standard Deviation of Raw Data	20.74
Khat	350
Theta hat	1.021
Kstar	297.6
Theta star	1.201
Mean of Log Transformed Data	5.878
Standard Deviation of Log Transformed Data	0.0534
Normal GOF Test Results	
Correlation Coefficient R	0.712
Shapiro Wilk Test Statistic	0.539
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	5.5000E-8
Lilliefors Test Statistic	0.352
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.729
A-D Test Statistic	3.012
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.341
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.734
Shapiro Wilk Test Statistic	0.571
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	1.4561E-7
Lilliefors Test Statistic	0.337
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (m-61)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	1
Number of Distinct Observations	7
Minimum	340
Maximum	420
Mean of Raw Data	360.5
Standard Deviation of Raw Data	19.05
Khat	397
Theta hat	0.908
Kstar	337.5
Theta star	1.068
Mean of Log Transformed Data	5.886
Standard Deviation of Log Transformed Data	0.0509
Normal GOF Test Results	
Correlation Coefficient R	0.899
Shapiro Wilk Test Statistic	0.82
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0012
Lilliefors Test Statistic	0.26
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.909
A-D Test Statistic	1.108
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.254
K-S Critical(0.05) Value	0.193

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.911
Shapiro Wilk Test Statistic	0.841
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.00295
Lilliefors Test Statistic	0.251
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
TDS (m-54)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	2900
Maximum	3200
Mean of Raw Data	3030
Standard Deviation of Raw Data	108.1
Khat	829.3
Theta hat	3.654
Kstar	704.9
Theta star	4.298
Mean of Log Transformed Data	8.016
Standard Deviation of Log Transformed Data	0.0356
Normal GOF Test Results	
Correlation Coefficient R	0.943
Shapiro Wilk Test Statistic	0.868
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0115
Lilliefors Test Statistic	0.191

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.941
A-D Test Statistic	1.042
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.199
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.943
Shapiro Wilk Test Statistic	0.867
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0113
Lilliefors Test Statistic	0.195
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
TDS (m-59)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	4
Minimum	2500
Maximum	2900
Mean of Raw Data	2720
Standard Deviation of Raw Data	95.15
Khat	843.4
Theta hat	3.225
Kstar	716.9
Theta star	3.794
Mean of Log Transformed Data	7.908
Standard Deviation of Log Transformed Data	0.0355
Normal GOF Test Results	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Correlation Coefficient R	0.891
Shapiro Wilk Test Statistic	0.807
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	6.7213E-4
Lilliefors Test Statistic	0.317
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.891
A-D Test Statistic	1.879
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.32
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.885
Shapiro Wilk Test Statistic	0.797
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	4.5491E-4
Lilliefors Test Statistic	0.324
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
TDS (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Distinct Observations	6
Minimum	2500
Maximum	3000

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Mean of Raw Data	2800
Standard Deviation of Raw Data	107.6
Khat	692.4
Theta hat	4.044
Kstar	588.6
Theta star	4.757
Mean of Log Transformed Data	7.937
Standard Deviation of Log Transformed Data	0.0393
Normal GOF Test Results	
Correlation Coefficient R	0.887
Shapiro Wilk Test Statistic	0.81
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	7.1069E-4
Lilliefors Test Statistic	0.35
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.888
A-D Test Statistic	1.975
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.355
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.88
Shapiro Wilk Test Statistic	0.797
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	4.3106E-4
Lilliefors Test Statistic	0.357
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Data do not follow a discernible distribution at (0.05) Level of Significance	
TDS (m-61)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	1
Number of Distinct Observations	5
Minimum	2600
Maximum	3000
Mean of Raw Data	2810
Standard Deviation of Raw Data	111.9
Khat	667.1
Theta hat	4.213
Kstar	567
Theta star	4.956
Mean of Log Transformed Data	7.94
Standard Deviation of Log Transformed Data	0.0397
Normal GOF Test Results	
Correlation Coefficient R	0.955
Shapiro Wilk Test Statistic	0.907
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0621
Lilliefors Test Statistic	0.236
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.956
A-D Test Statistic	0.877
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.232
K-S Critical(0.05) Value	0.193
Data not Gamma Distributed at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Lognormal GOF Test Results	
Correlation Coefficient R	0.957
Shapiro Wilk Test Statistic	0.911
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.072
Lilliefors Test Statistic	0.228
Lilliefors Critical (0.05) Value	0.192
Data appear Approximate_Lognormal at (0.05) Significance Level	
	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.13/24/2021 9:59:54 AM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Calcium (m-54) - outlier removed	
Raw Statistics	
Number of Valid Observations	19
Number of Missing Observations	1
Number of Distinct Observations	7
Minimum	92
Maximum	100
Mean of Raw Data	98.21
Standard Deviation of Raw Data	2.323
Khat	1850
Theta hat	0.0531
Kstar	1558
Theta star	0.063
Mean of Log Transformed Data	4.587
Standard Deviation of Log Transformed Data	0.024
Normal GOF Test Results	
Correlation Coefficient R	0.892

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	20
Shapiro Wilk Test Statistic	0.793
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	6.0241E-4
Lilliefors Test Statistic	0.253
Lilliefors Critical (0.05) Value	0.197
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.887
A-D Test Statistic	1.519
A-D Critical (0.05) Value	0.738
K-S Test Statistic	0.258
K-S Critical(0.05) Value	0.198
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.889
Shapiro Wilk Test Statistic	0.79
Shapiro Wilk Critical (0.05) Value	0.901
Approximate Shapiro Wilk P Value	5.1895E-4
Lilliefors Test Statistic	0.251
Lilliefors Critical (0.05) Value	0.197
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	

Appendix B
Summary Statistics

	General Statistics on Uncensored Data
Date/Time of Computation	ProUCL 5.13/24/2021 8:55:52 AM
User Selected Options	
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021.xls
Full Precision	OFF

From File: 20210324_AppIII_Cholla_BAM_ProUCL_Jan2021.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (m-54)	20	0	20	0	0.00%	N/A	N/A	0.517	3.6079E-4	0.019	0.0368
Boron (m-59)	20	0	20	0	0.00%	N/A	N/A	0.496	1.8395E-4	0.0136	0.0274
Boron (m-60)	20	0	20	0	0.00%	N/A	N/A	0.51	2.8921E-4	0.017	0.0334
Boron (m-61)	20	1	20	0	0.00%	N/A	N/A	0.498	1.5368E-4	0.0124	0.0249
Calcium (m-54)	20	0	20	0	0.00%	N/A	N/A	98.8	12.06	3.473	0.0352
Calcium (m-59)	20	0	20	0	0.00%	N/A	N/A	87.5	6.474	2.544	0.0291
Calcium (m-60)	20	0	20	0	0.00%	N/A	N/A	87.2	7.853	2.802	0.0321
Calcium (m-61)	20	1	20	0	0.00%	N/A	N/A	89.95	5.208	2.282	0.0254
Chloride (m-54)	20	0	20	0	0.00%	N/A	N/A	1500	6316	79.47	0.053
Chloride (m-59)	20	0	20	0	0.00%	N/A	N/A	1335	5553	74.52	0.0558
Chloride (m-60)	20	0	20	0	0.00%	N/A	N/A	1380	4842	69.59	0.0504
Chloride (m-61)	20	1	20	0	0.00%	N/A	N/A	1390	12526	111.9	0.0805
Fluoride (m-54)	20	0	20	0	0.00%	N/A	N/A	1.365	0.015	0.123	0.0898
Fluoride (m-59)	20	0	20	0	0.00%	N/A	N/A	1.405	0.0121	0.11	0.0782
Fluoride (m-60)	20	0	20	0	0.00%	N/A	N/A	1.445	0.00682	0.0826	0.0571
Fluoride (m-61)	21	0	21	0	0.00%	N/A	N/A	1.429	0.00614	0.0784	0.0549
pH (m-54)	19	1	19	0	0.00%	N/A	N/A	7.558	0.0203	0.143	0.0189
pH (m-59)	19	1	19	0	0.00%	N/A	N/A	7.684	0.0245	0.157	0.0204
pH (m-60)	19	1	19	0	0.00%	N/A	N/A	7.678	0.0171	0.131	0.017
pH (m-61)	19	2	19	0	0.00%	N/A	N/A	7.658	0.0316	0.178	0.0232
Sulfate (m-54)	20	0	20	0	0.00%	N/A	N/A	360.5	141.8	11.91	0.033
Sulfate (m-59)	20	0	20	0	0.00%	N/A	N/A	348	101.1	10.05	0.0289
Sulfate (m-60)	20	0	20	0	0.00%	N/A	N/A	357.5	430.3	20.74	0.058
Sulfate (m-61)	20	1	20	0	0.00%	N/A	N/A	360.5	362.9	19.05	0.0528
TDS (m-54)	20	0	20	0	0.00%	N/A	N/A	3030	11684	108.1	0.0357
TDS (m-59)	20	0	20	0	0.00%	N/A	N/A	2720	9053	95.15	0.035
TDS (m-60)	20	0	20	0	0.00%	N/A	N/A	2800	11579	107.6	0.0384
TDS (m-61)	20	1	20	0	0.00%	N/A	N/A	2810	12526	111.9	0.0398

APPENDIX C

INTRAWELL PRELIMINARY OUTPUT FILES

Appendix C
Intrawell Comparison Statistics

Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	ProUCL 5.14/10/2021 4:34:56 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_d.xls
Full Precision	OFF
Confidence Coefficient	99%
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (2 Sided Alternative
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median

Sample 1 Data: Fluoride(m-60_baseline)
Sample 2 Data: Fluoride(m-60_compliance)

Raw Statistics

	Sample 1	Sample 2
Number of Valid Data	13	7
Number of Non-Detects	0	0
Number of Detect Data	13	7
Minimum Non-Detect	N/A	N/A
Maximum Non-Detect	N/A	N/A
Percent Non-detects	0.00%	0.00%
Minimum Detect	1.3	1.4
Maximum Detect	1.5	1.7
Mean of Detects	1.438	1.457
Median of Detects	1.4	1.4
SD of Detects	0.065	0.113

Wilcoxon-Mann-Whitney (WMW) Test

H0: Mean/Median of Sample 1 = Mean/Median of Sample 2

Sample 1 Rank Sum W-Stat	139
WMW U-Stat	48
Mean (U)	45.5
SD(U) - Adj ties	12.35
Lower U-Stat Critical Value (0.005)	14
Upper U-Stat Critical Value (0.995)	77
Standardized WMW U-Stat	0.223

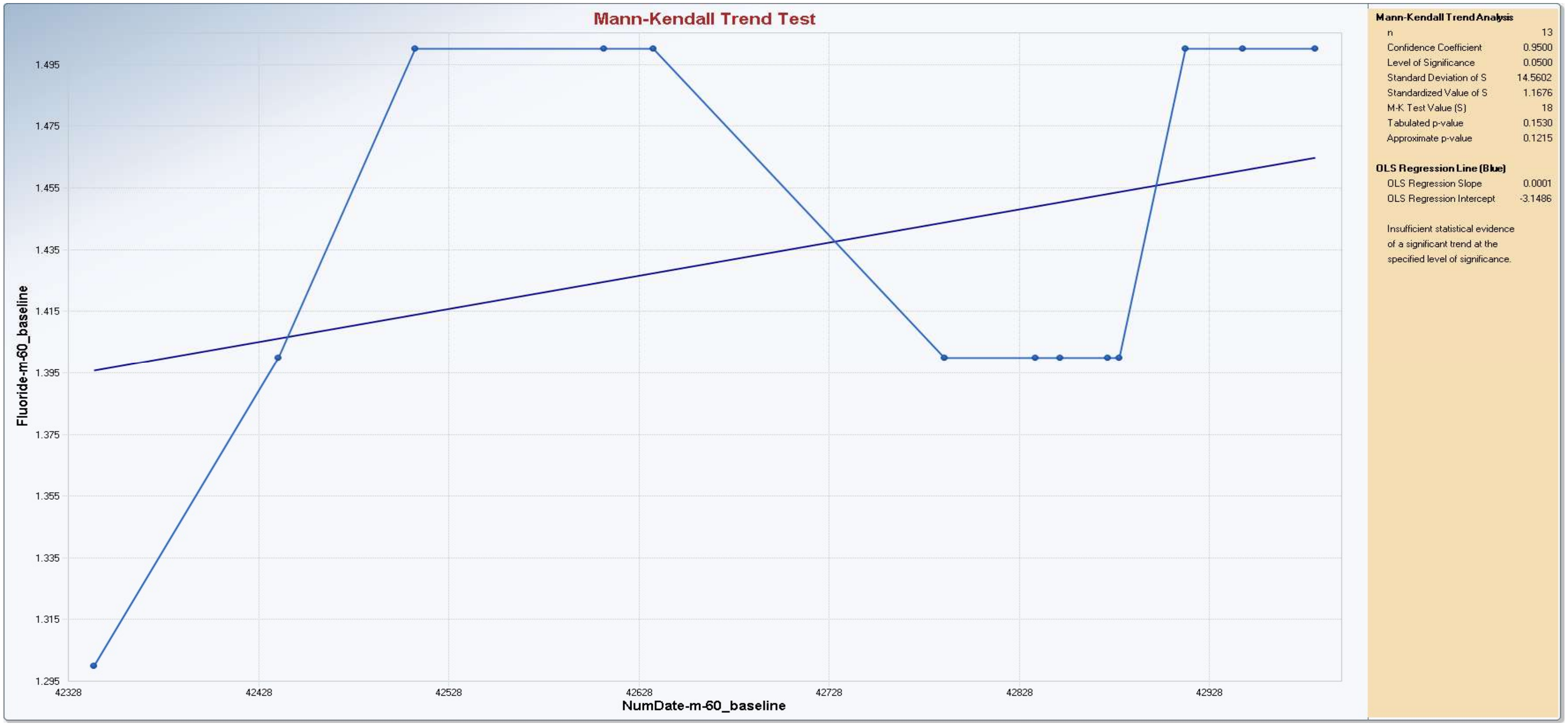
Appendix C
Intrawell Comparison Statistics

Sample 1 Data: Fluoride(m-60_baseline)		
Approximate P-Value	0.824	
Conclusion with Alpha = 0.01		
Do Not Reject H0, Conclude Sample 1 = Sample 2		
Wilcoxon-Mann-Whitney Sample 1 vs Sample 2 Comparison Test for Data Sets with Non-Detects		
User Selected Options		
Date/Time of Computation	ProUCL 5.14/10/2021 4:36:46 PM	
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_d.xls	
Full Precision	OFF	
Confidence Coefficient	99%	
Selected Null Hypothesis	Sample 1 Mean/Median = Sample 2 Mean/Median (2 Sided Alternative	
Alternative Hypothesis	Sample 1 Mean/Median <> Sample 2 Mean/Median	
Sample 1 Data: Fluoride(m-61_baseline)		
Sample 2 Data: Fluoride(m-61_compliance)		
Raw Statistics		
	Sample 1	Sample 2
Number of Valid Data	14	7
Number of Non-Detects	0	0
Number of Detect Data	14	7
Minimum Non-Detect	N/A	N/A
Maximum Non-Detect	N/A	N/A
Percent Non-detects	0.00%	0.00%
Minimum Detect	1.3	1.4
Maximum Detect	1.5	1.6
Mean of Detects	1.421	1.443
Median of Detects	1.4	1.4
SD of Detects	0.0802	0.0787
Wilcoxon-Mann-Whitney (WMW) Test		
H0: Mean/Median of Sample 1 = Mean/Median of Sample 2		
Sample 1 Rank Sum W-Stat	150.5	
WMW U-Stat	45.5	

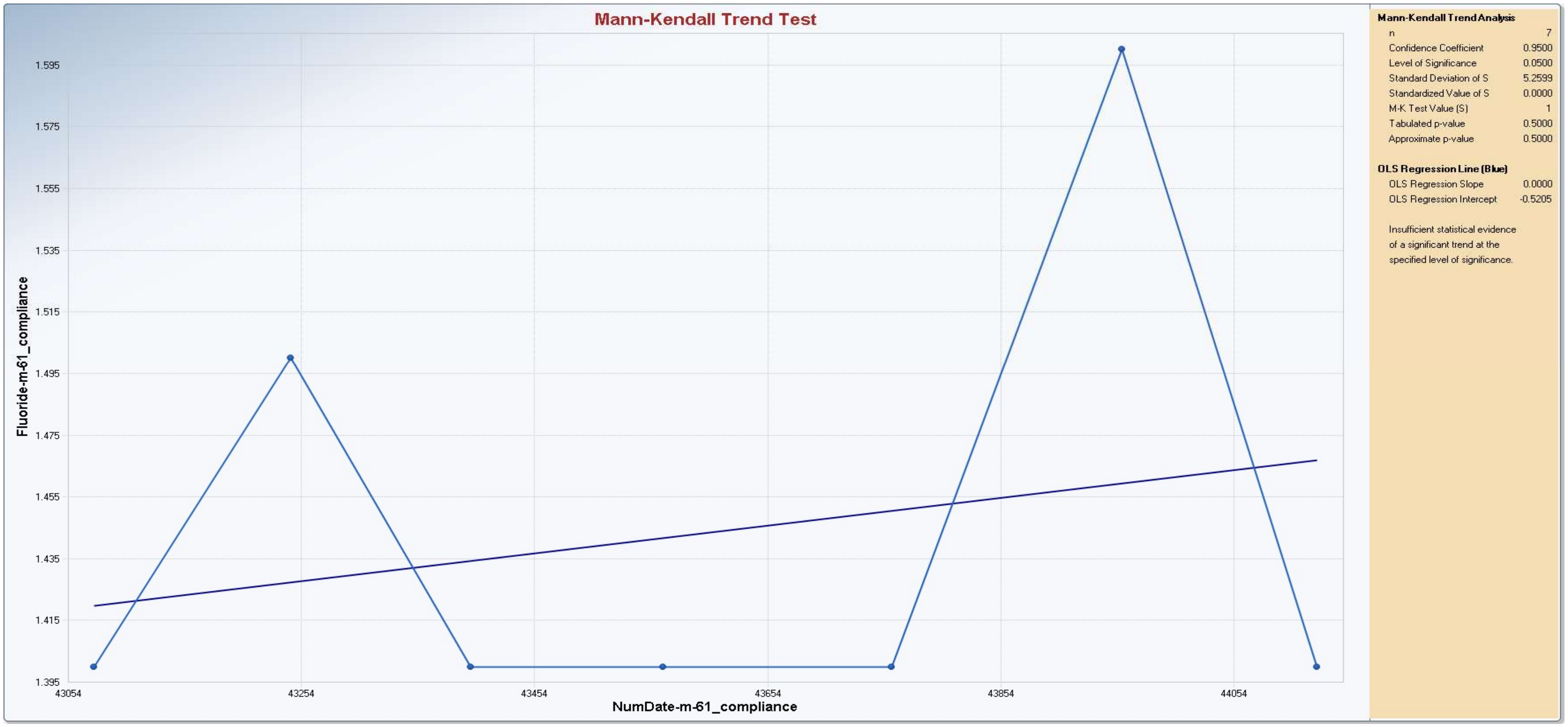
Appendix C
Intrawell Comparison Statistics

Sample 1 Data: Fluoride(m-60_baseline)	
Mean (U)	49
SD(U) - Adj ties	12.4
Lower U-Stat Critical Value (0.005)	16
Upper U-Stat Critical Value (0.995)	82
Standardized WMW U-Stat	-0.283
Approximate P-Value	0.778
Conclusion with Alpha = 0.01	
Do Not Reject H0, Conclude Sample 1 = Sample 2	

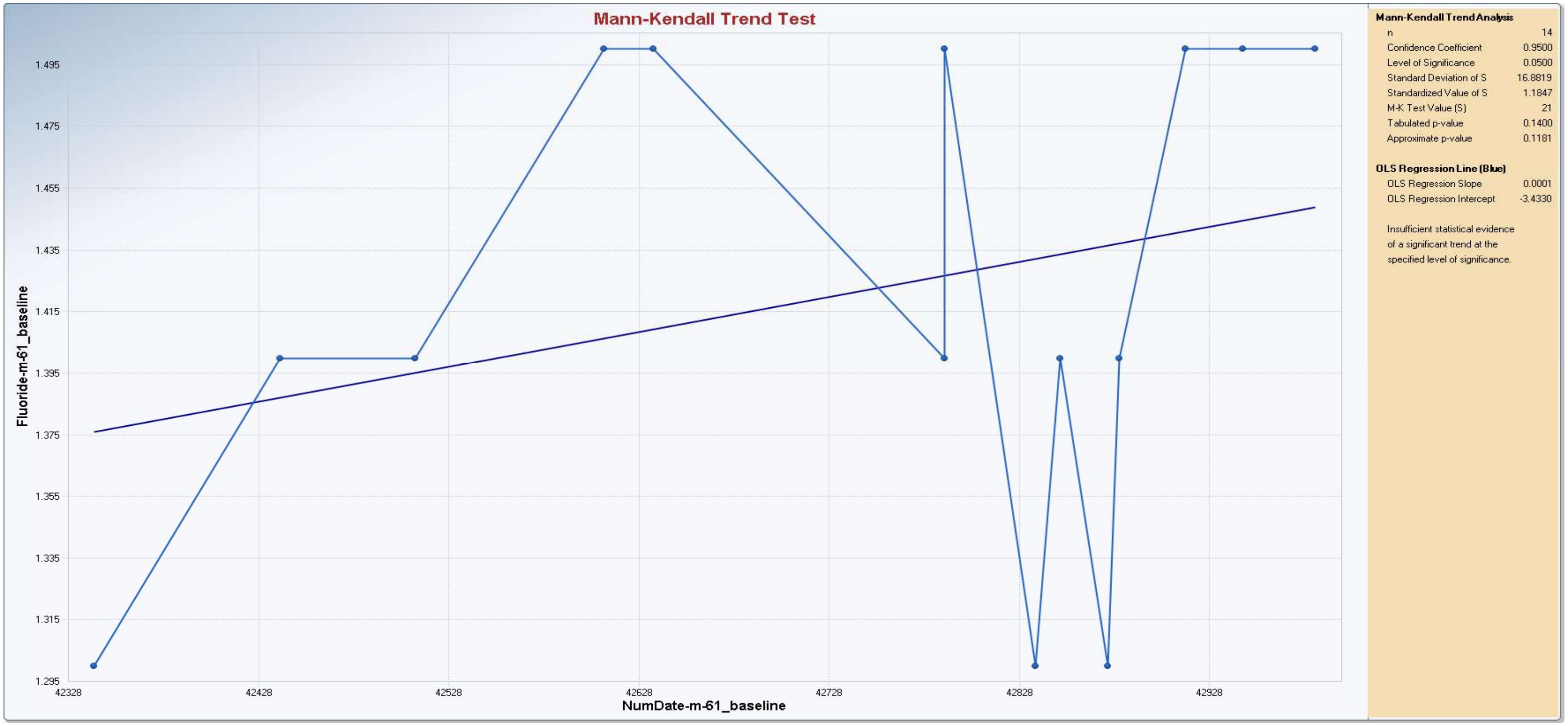
Appendix C
IntrawellTime Series Plots



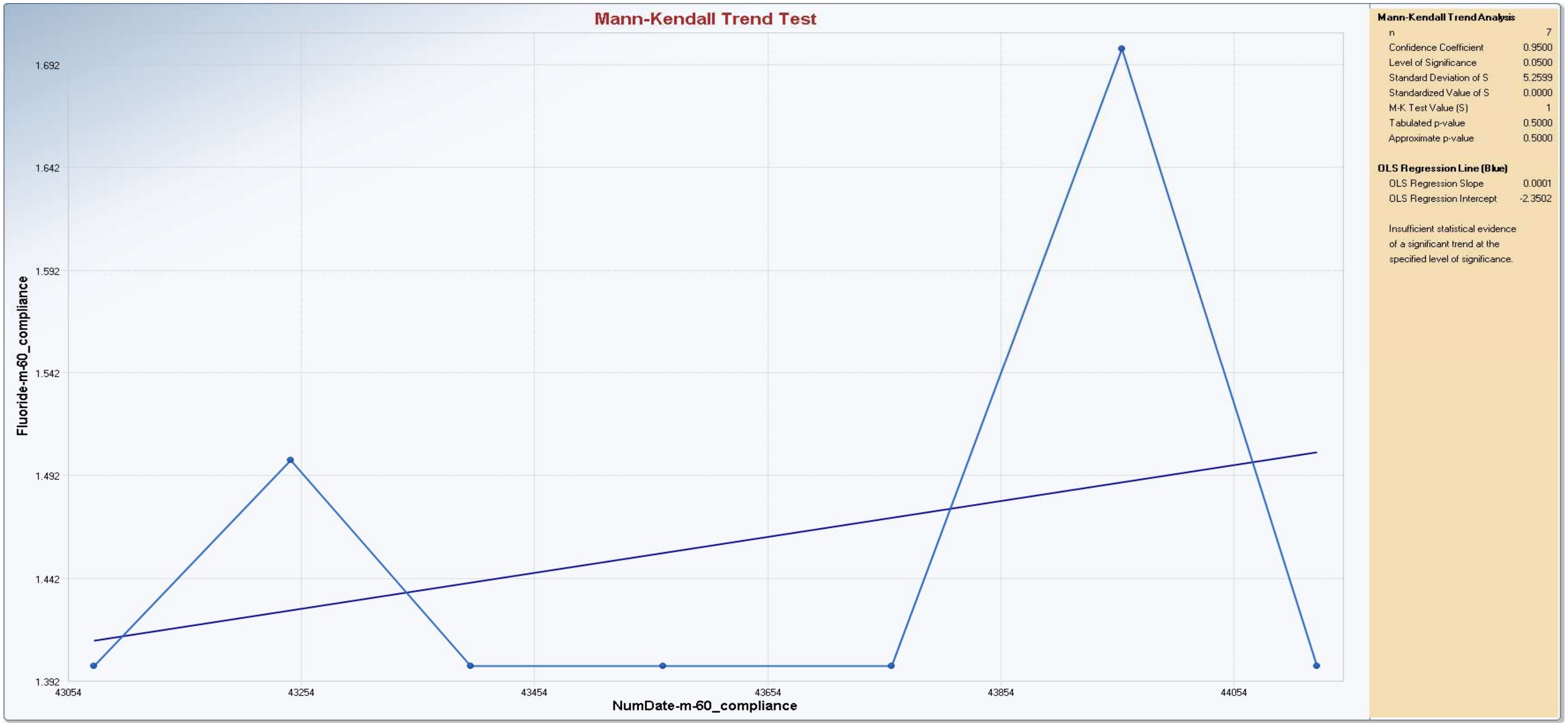
Appendix C
IntrawellTime Series Plots



Appendix C
IntrawellTime Series Plots



Appendix C
IntrawellTime Series Plots



Appendix C
Intrawell Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.14/10/2021 7:02:51 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_d.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Fluoride-m-60_baseline	
General Statistics	
Number of Events Reported (m)	13
Number of Missing Events	0
Number or Reported Events Used	13
Number Values Reported (n)	13
Minimum	1.3
Maximum	1.5
Mean	1.438
Geometric Mean	1.437
Median	1.4
Standard Deviation	0.065
Coefficient of Variation	0.0452
Mann-Kendall Test	
M-K Test Value (S)	18
Tabulated p-value	0.153
Standard Deviation of S	14.56
Standardized Value of S	1.168
Approximate p-value	0.121
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Fluoride-m-60_compliance	
General Statistics	
Number of Events Reported (m)	7
Number of Missing Events	0
Number or Reported Events Used	7
Number Values Reported (n)	7
Minimum	1.4

Appendix C
Intrawell Time Series Statistics

Number of Events Reported (m)	13
Maximum	1.7
Mean	1.457
Geometric Mean	1.454
Median	1.4
Standard Deviation	0.113
Coefficient of Variation	0.0778
Mann-Kendall Test	
M-K Test Value (S)	1
Tabulated p-value	0.5
Standard Deviation of S	5.26
Standardized Value of S	0
Approximate p-value	0.5
Insufficient evidence to identify a significant trend at the specified level of significance.	
Fluoride-m-61_baseline	
General Statistics	
Number of Events Reported (m)	14
Number of Missing Events	0
Number or Reported Events Used	14
Number Values Reported (n)	14
Minimum	1.3
Maximum	1.5
Mean	1.421
Geometric Mean	1.419
Median	1.4
Standard Deviation	0.0802
Coefficient of Variation	0.0564
Mann-Kendall Test	
M-K Test Value (S)	21
Tabulated p-value	0.14
Standard Deviation of S	16.88
Standardized Value of S	1.185
Approximate p-value	0.118
Insufficient evidence to identify a significant	

Appendix C
Intrawell Time Series Statistics

Number of Events Reported (m)	13
trend at the specified level of significance.	
Fluoride-m-61_compliance	
General Statistics	
Number of Events Reported (m)	7
Number of Missing Events	0
Number or Reported Events Used	7
Number Values Reported (n)	7
Minimum	1.4
Maximum	1.6
Mean	1.443
Geometric Mean	1.441
Median	1.4
Standard Deviation	0.0787
Coefficient of Variation	0.0545
Mann-Kendall Test	
M-K Test Value (S)	1
Tabulated p-value	0.5
Standard Deviation of S	5.26
Standardized Value of S	0
Approximate p-value	0.5
Insufficient evidence to identify a significant	
trend at the specified level of significance.	

Appendix C
Intrawell Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.14/10/2021 4:23:08 PM
From File	20210324_AppIII_Cholla_BAM_ProUCL_Jan2021_d.xls
Full Precision	OFF
Confidence Coefficient	0.95

Fluoride (m-60_baseline)

Raw Statistics	
Number of Valid Observations	13
Number of Distinct Observations	3
Minimum	1.3
Maximum	1.5
Mean of Raw Data	1.438
Standard Deviation of Raw Data	0.065
Khat	521.2
Theta hat	0.00276
Kstar	401
Theta star	0.00359
Mean of Log Transformed Data	0.363
Standard Deviation of Log Transformed Data	0.0458
Normal GOF Test Results	
Correlation Coefficient R	0.881
Shapiro Wilk Test Statistic	0.772
Shapiro Wilk Critical (0.05) Value	0.866
Approximate Shapiro Wilk P Value	0.00292
Lilliefors Test Statistic	0.289
Lilliefors Critical (0.05) Value	0.234
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.876
A-D Test Statistic	1.463
A-D Critical (0.05) Value	0.732
K-S Test Statistic	0.297

Appendix C
Intrawell Goodness of Fit Statistics

Number of Valid Observations	13						
K-S Critical(0.05) Value	0.236						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.88						
Shapiro Wilk Test Statistic	0.772						
Shapiro Wilk Critical (0.05) Value	0.866						
Approximate Shapiro Wilk P Value	0.00279						
Lilliefors Test Statistic	0.287						
Lilliefors Critical (0.05) Value	0.234						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							
Fluoride (m-60_compliance)							
Raw Statistics							
Number of Valid Observations	7						
Number of Distinct Observations	3						
Minimum	1.4						
Maximum	1.7						
Mean of Raw Data	1.457						
Standard Deviation of Raw Data	0.113						
Khat	207.4						
Theta hat	0.00703						
Kstar	118.6						
Theta star	0.0123						
Mean of Log Transformed Data	0.374						
Standard Deviation of Log Transformed Data	0.0737						
Normal GOF Test Results							
Correlation Coefficient R	0.772						
Shapiro Wilk Test Statistic	0.612						
Shapiro Wilk Critical (0.05) Value	0.803						
Approximate Shapiro Wilk P Value	2.6539E-4						

Appendix C
Intrawell Goodness of Fit Statistics

Number of Valid Observations	13
Lilliefors Test Statistic	0.407
Lilliefors Critical (0.05) Value	0.304
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.791
A-D Test Statistic	1.39
A-D Critical (0.05) Value	0.708
K-S Test Statistic	0.423
K-S Critical(0.05) Value	0.311
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.777
Shapiro Wilk Test Statistic	0.619
Shapiro Wilk Critical (0.05) Value	0.803
Approximate Shapiro Wilk P Value	3.2191E-4
Lilliefors Test Statistic	0.409
Lilliefors Critical (0.05) Value	0.304
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-61_baseline)	
Raw Statistics	
Number of Valid Observations	14
Number of Distinct Observations	3
Minimum	1.3
Maximum	1.5
Mean of Raw Data	1.421
Standard Deviation of Raw Data	0.0802
Khat	333
Theta hat	0.00427
Kstar	261.7

Appendix C
Intrawell Goodness of Fit Statistics

Number of Valid Observations	13							
Theta star	0.00543							
Mean of Log Transformed Data	0.35							
Standard Deviation of Log Transformed Data	0.0571							
Normal GOF Test Results								
Correlation Coefficient R	0.907							
Shapiro Wilk Test Statistic	0.798							
Shapiro Wilk Critical (0.05) Value	0.874							
Approximate Shapiro Wilk P Value	0.00612							
Lilliefors Test Statistic	0.265							
Lilliefors Critical (0.05) Value	0.226							
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R	0.899							
A-D Test Statistic	1.235							
A-D Critical (0.05) Value	0.733							
K-S Test Statistic	0.272							
K-S Critical(0.05) Value	0.228							
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R	0.906							
Shapiro Wilk Test Statistic	0.797							
Shapiro Wilk Critical (0.05) Value	0.874							
Approximate Shapiro Wilk P Value	0.00581							
Lilliefors Test Statistic	0.262							
Lilliefors Critical (0.05) Value	0.226							
Data not Lognormal at (0.05) Significance Level								
Non-parametric GOF Test Results								
Data do not follow a discernible distribution at (0.05) Level of Significance								
Fluoride (m-61_compliance)								

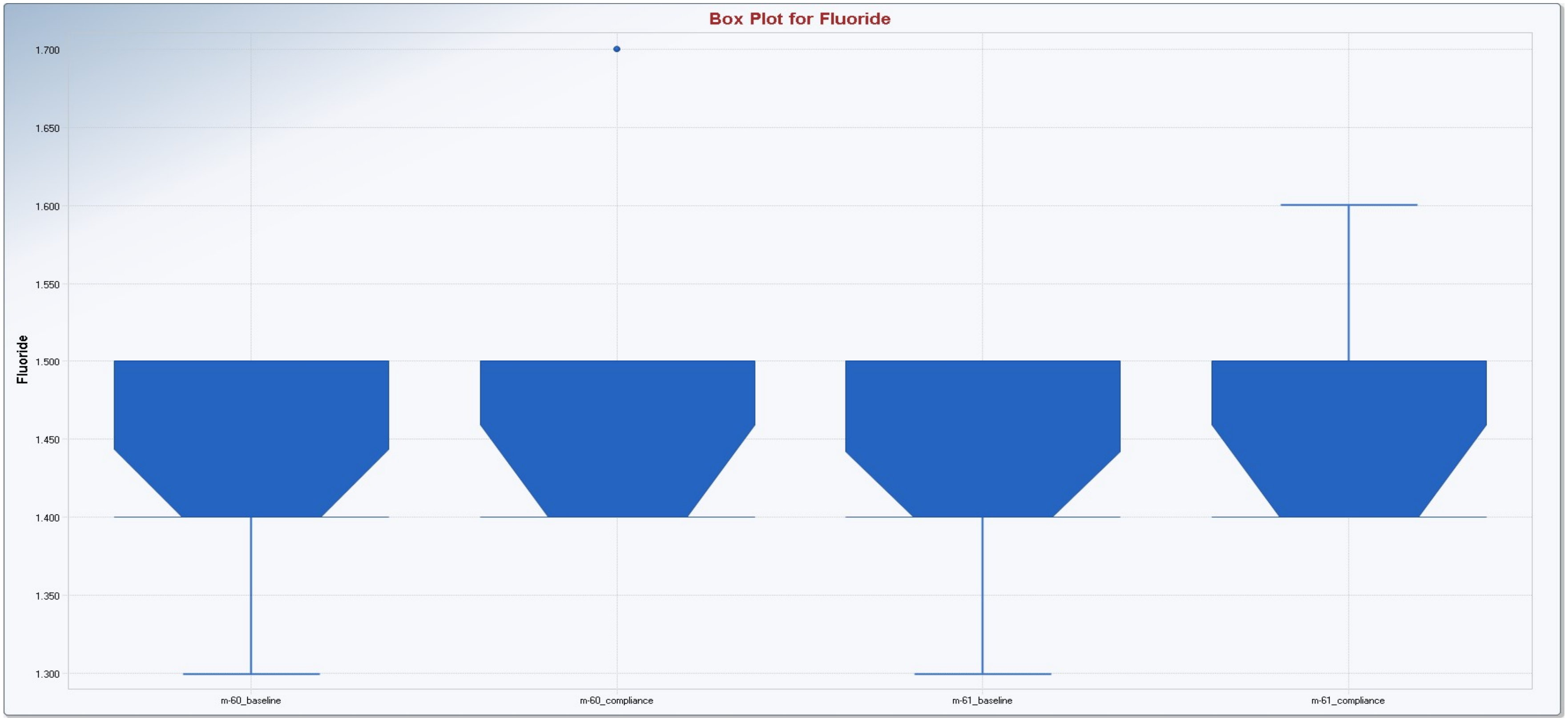
Appendix C
Intrawell Goodness of Fit Statistics

Number of Valid Observations	13							
Raw Statistics								
Number of Valid Observations	7							
Number of Distinct Observations	3							
Minimum	1.4							
Maximum	1.6							
Mean of Raw Data	1.443							
Standard Deviation of Raw Data	0.0787							
Khat	409.7							
Theta hat	0.00352							
Kstar	234.2							
Theta star	0.00616							
Mean of Log Transformed Data	0.365							
Standard Deviation of Log Transformed Data	0.0528							
Normal GOF Test Results								
Correlation Coefficient R	0.799							
Shapiro Wilk Test Statistic	0.647							
Shapiro Wilk Critical (0.05) Value	0.803							
Approximate Shapiro Wilk P Value	7.9152E-4							
Lilliefors Test Statistic	0.421							
Lilliefors Critical (0.05) Value	0.304							
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R	0.812							
A-D Test Statistic	1.329							
A-D Critical (0.05) Value	0.708							
K-S Test Statistic	0.437							
K-S Critical(0.05) Value	0.311							
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R	0.801							
Shapiro Wilk Test Statistic	0.648							
Shapiro Wilk Critical (0.05) Value	0.803							
Approximate Shapiro Wilk P Value	8.4340E-4							

Appendix C
Intrawell Goodness of Fit Statistics

Number of Valid Observations	13						
Lilliefors Test Statistic	0.422						
Lilliefors Critical (0.05) Value	0.304						
Data not Lognormal at (0.05) Significance Level							
Non-parametric GOF Test Results							
Data do not follow a discernible distribution at (0.05) Level of Significance							

Appendix C
Intrawell Box and Whisker Plot



Appendix I

Wood Technical Memorandum Documenting the Statistical Analysis of Appendix III Constituent Data Collected for the BAM Through July 2021

Technical Memorandum

To:	Arizona Public Service Company	**File No:**	14-2021-2008
From:	Mari Wuollet	**Reviewed by:**	Maren Henley, PE
Date:	October 13, 2021		

Subject: **CCR GROUNDWATER DETECTION MONITORING**
STATISTICAL ANALYSIS AND RESULTS FOR THE BOTTOM ASH MONOFILL
APPENDIX III CONSTITUENT DATA COLLECTED THROUGH JULY 2021
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Geosciences Consulting LLC (Geosciences Consulting), a subcontractor to Wood Environment and Infrastructure Solutions, Inc. (Wood) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The BAM is a Site CCR unit that is currently in the detection monitoring program. The CCR Rule requires semiannual evaluations of Appendix III constituent data collected from BAM downgradient wells on an ongoing basis to determine if a statistically significant increase (SSI) over background threshold values (BTVs) has occurred. The statistical evaluation documented herein incorporates Appendix III constituent data collected from BAM downgradient wells MW-59, MW-60, and MW-61 through July 2021.

To address an initial exceedance of the total dissolved solids (TDS) BTV at MW-60 in April 2021, in accordance with the *Statistical Data Analysis Workplan* (SDAWP) developed for the Site and the US EPA's Unified Guidance (Wood, 2018; US EPA 2009), a 1 of 2 resampling strategy was implemented in July 2021. The detection results for TDS at MW-60 of the July 2021 resampling event fell under the associated BTV, and therefore the initial exceedance was determined to be statistically insignificant. Details of the detection results are presented in Section 2.0.

In addition, Attachment A includes updates to intrawell BTVs for fluoride in MW-60 and MW-61 based on groundwater sample data available up to the most recent semiannual groundwater sampling event (April 2021). The updated BTVs are shown in Table 1 of Attachment A and summarized in Section 2.0.

600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100
www.woodplc.com

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation and BTV recalculations conducted by Geosciences Consulting. The results of the evaluation are summarized as follows:

- In April 2021 TDS was detected at 4,200 mg/L at MW-60 over the TDS BTV of 3,225 mg/L but was detected at 2,700 mg/L in July 2021; therefore, the initial exceedance is statistically insignificant.

- There are currently no SSIs over BTVs for Appendix III constituents at the BAM downgradient wells. This includes the results of the July 2021 resample event at M-60 for TDS.

- A statistically significant decreasing temporal trend is evident for boron and calcium at MW-60.

- As recommended in previous Technical Memorandums, the intrawell BTVs for fluoride at MW-60 and MW-61 have been updated to 1.7 mg/L and 1.6 mg/L respectively, with a 1 of 2 resampling strategy for both wells (Wood, 2019a; Wood, 2019b; Wood, 2019c; Wood, 2021).

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of detection monitoring at a semiannual frequency for Appendix III constituents at the BAM is warranted because there are currently no SSIs over Appendix III constituent BTVs. Wood also recommends trend testing after each monitoring event and updates to the BTVs after 1-2 years of future sampling events.

4.0 REFERENCES

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments.*

United States Environmental Protection Agency (U.S. EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant. Navajo County, Arizona. Prepared for Arizona Public Service. October 15, 2018.

Wood, 2019a. *Alternative Source Demonstration for Fluoride at the BAM.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. August 14, 2019.

Wood, 2019b. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. Technical Memorandum dated April 15, 2019.

Wood, 2019c. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill, Appendix III Constituent Data Collected through April 2019.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. Technical Memorandum dated October 15, 2019.

Wood, 2021. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill, Appendix III Constituent Data Collected through October 2020*. Arizona Public Service Cholla Power Plant. Navajo County, Arizona. Technical Memorandum dated April 12, 2021.

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: September 30, 2021

Subject: **CCR Groundwater Detection Monitoring**
Statistical Evaluation of April 2021 & Preceding Bottom Ash Monofill Data
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the ongoing statistical evaluation of detection monitoring (i.e., Appendix III constituents) groundwater data associated with the Bottom Ash Monofill (BAM) located at the Arizona Public Service Company (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the *Statistical Data Analysis Work Plan* (SDAWP) for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2018; Wood Environment & Infrastructure Solutions, Inc. [Wood], 2018).

The statistical evaluation documented herein incorporates the results of detection monitoring at the BAM through April 2021. The Background Threshold Values (BTVs) in this Tech Memo recognize recommendations put forth in: 1) the Alternative Source Demonstration to address historical statistically significant increases in fluoride concentrations over BTVs at the BAM (Wood 2019a, Wood 2019b) and 2) the preceding April 2019 Tech Memo that set a working basis for updating these BTVs (Wood, 2021).

The following sections present data inputs, statistical methods, results and recommendations for the subject analysis.

2.0 DATA INPUTS

The BAM groundwater monitoring well network consists of one background monitoring well (M-54) and three compliance (i.e., downgradient) monitoring wells (M-59, M-60 and M-61).

The BAM detection monitoring program performs statistical evaluations semi-annually. The period of evaluation for the subject analysis ranges from December 2015 through April 2021 and includes:

1) the minimum of eight initial, or baseline, sampling rounds required by the CCR Rule and five subsequent sampling rounds of detection monitoring that occur on a semi-annual frequency; and

PO Box 160362
Sacramento, CA 95816
Tel: 918-809-2634

2) a July 2021 resampling event triggered by an in initial exceedance for total dissolved solids (TDS) during the April 2021 sampling event (see Table 1).

Due principally to the CCR Rule requirement that a minimum of eight initial rounds of data be collected from the site prior to October 17, 2017, the frequency of sample collection prior to this date is short and variable (e.g., biweekly to quarterly sampling).

This data evaluation evaluates between 20 and 22 samples for boron, calcium, chloride, sulfate, pH and TDS within each compliance monitoring well.

Appendix A contains the contents of the ProUCL data upload tables for the subject analysis. Data inputs for this statistical analysis were prepared, and provided by, Wood. The Appendix III analytes are listed by name or chemical symbol as column headers in the ProUCL data upload table. By ProUCL convention, each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0." The detection frequency is 100% for all sample data listed in Appendix A.

3.0 METHODS

The statistical methods and analysis approach used to evaluate BAM Appendix III constituent data are documented in the SDAWP (Wood, 2018) prepared for the site.

Preliminary exploratory data analysis (EDA) is necessary to help assure that groundwater sample comparisons to their respective BTVs are valid. EDA includes box and whisker plots generation, goodness of fit testing, Mann-Kendall trend testing, and outlier testing. EDA results are shown in Appendix B.

Table 1 details the not-to-exceed BTVs and method of calculation for the BAM. Table 1 reflects updates to the intrawell (same well) fluoride BTVs to reflect groundwater samples between December 2015 through April 2021. The premise and justification for the intrawell updates are put forth in previous Technical Memorandums (see Wood, 2019b; Wood, 2019c; Wood, 2021).

4.0 RESULTS

Table 2 summarizes: 1) which Appendix III constituents exhibit exceedances above their respective BTVs by compliance well and 2) which constituents exhibit statistically significant temporal trends.

Appendix B contains the raw ProUCL EDA outputs as reference for the following statistical findings:

Monitoring Well M-59. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the April 2021 sampling event. For sampling events occurring through April 2021, there are no significant ($p<0.05$) temporal trends for Appendix III constituents at this monitoring location.

Monitoring Well M-60. The April 2021 sampling event resulted in an initial exceedance for TDS. Referencing Table 1, TDS follows a 1 of 2 resampling strategy. To declare the April 2021 initial exceedance statistically significant ($p<0.05$), both the initial exceedance and a consecutive statistically independent resample must exceed the TDS BTV. The resampling event on July 7, 2021 shows a TDS value below the

BTV for this monitoring location, thereby declaring the initial exceedance statistically insignificant. The remaining Appendix III constituent concentrations do not show exceedances over their respective BTVs for the April 2021 sampling event. There are statistically significant ($p<0.05$) decreasing time series trend for boron and calcium at this location for the April 2021 sample event.

Monitoring Well M-61. The Appendix III constituent concentrations at this monitoring location do not show exceedances over their respective BTVs for the April 2021 sampling event. There are no significant ($p<0.05$) temporal trends for Appendix III constituents at this monitoring location for the April 2021 sampling event.

Intrawell BTV Updates: The intrawell BTV updates for fluoride in MW-60 and MW-61 reflect a non-parametric UPL with a 1 of 2 (Xn) resampling strategy (see Table 2); essentially, the maximum previous concentration considered to be background in the fluoride time series for the respective monitoring wells. The calculated intrawell UPLs achieve a 95% confidence level and represent 'good' statistical power, per defined by the US EPA Unified Guidance (US EPA, 2009).

5.0 CONCLUSIONS

The April 2021 Appendix III sample concentrations for boron, calcium, chloride, sulfate, field pH and fluoride are beneath their respective BTVs at M-59, M-60 and M-61. The July 2021 resampling event determined the initial exceedance for TDS at MW-60 was statistically insignificant. The TDS concentrations at MW-59 and MW-61 fell below their respective BTVs.

The results herein indicate the BAM should continue Detection Monitoring in accordance with 40 Code of Federal Regulations Section 257.95(f) (Federal Register, 2018).

6.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018.*

United States Environmental Protection Agency (U.S. EPA), 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Environmental Protection Agency Office of Resource Conservation and Recovery.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance. Cholla Power Plant. Navajo County, Arizona. Prepared for Arizona Public Service. October 15, 2018.

Wood, 2019a. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill*. Arizona Public Service Cholla Power Plant. Navajo County, Arizona. April 15, 2019.

Wood, 2019b. *Alternative Source Demonstration for Fluoride at the BAM.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. August 14, 2019.

Wood, 2019c. *CCR Groundwater Detection Monitoring Statistical Analysis and Results for the Bottom Ash Monofill. Appendix III Constituent Data Collected through April 2019.* Arizona Public Service Cholla Power Plant. Navajo County, Arizona. April 15, 2019.

Wood, 2021. *CCR Groundwater Detection Monitoring Statistical Evaluation of October 2020 & Preceding Bottom Ash Monofill Data*. Arizona Public Service Cholla Power Plant – Navajo County, Arizona. March 31, 2021.

ATTACHMENTS

Table 1 – BTVs and Intrawell UPLs for the Cholla BAM
Table 2 – Cholla BAM Downgradient Sample Data Summary

Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files

TABLES

Table 1
BTVs and Intrawell UPLs for the Cholla BAM
Appendix III Statistical Analysis

Background Well	Dates Corresponding to Data Used to Derive UPL	Constituent	BTV (Calculation Method)	Units	Resampling Strategy[1]
M-54	12/3/2015-10/21/2020	Boron	0.55 (P-UPLT)	mg/L	1 of 2
M-54	12/3/2015-10/21/2020	Calcium	101 (NP-UPLT)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Chloride	1,600 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	Fluoride	1.8 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	pH (upper limit)	7.8 (P-UPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	pH (lower limit)	7.3 (P-LPL)	SU	1 of 2
M-54	12/3/2015-10/21/2020	Sulfate	380 (NP-UPL)	mg/L	1 of 3
M-54	12/3/2015-10/21/2020	TDS	3225 (P-UPL)	mg/L	1 of 2

Compliance Well	Dates Corresponding to Data Used to Derive UPL	Constituent	Intrawell UPL (Calculation Method[1])	Units	Resampling Strategy
M-60	12/3/15-4/16/2021	Fluoride	1.7 (NP-UPL)	mg/L	1 of 2
M-61	12/3/15-4/16/2021	Fluoride	1.6 (NP-UPL)	mg/L	1 of 2

Notes:
BAM = Bottom Ash Pond
BTV = background threshold value
LPL = lower prediction limit
mg/L = milligrams per liter
NP = Non Parametric
P = Parametric
SU = standard units
TDS = total dissolved solids
UPL = upper predicition limit

[1] A 1 of 2 resampling strategy is in place for interwell parametric prediction limits. A 1 of 2 or a 1 of 3 resampling strategy is in place for non-parametric prediction limits and the limit represents the second highest concentration (i.e., second-order) value or the maximum concentration value of the data set (i.e., maximum order statistic), respectively. The BTV for calcium represents the second highest concentration value because the maximum concentration value is a percieved outlier and was removed from the evaluation.

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-59	7803_O	03-Dec-15	0.5	87	1300	1.3	7.53	340	2700
M-59	CH-M-59-0316_O	10-Mar-16	0.48	85	1400	1.3	7.57	350	2700
M-59	CH-CCR-M59-516_O	20-May-16	0.49	86	1400	1.4	---	340	2700
M-59	CH-CCR-M59-816_O	27-Aug-16	0.5	89	1400	1.4	7.6	350	2700
M-59	CH-CCR-M59-916_O	22-Sep-16	0.5	88	1300	1.4	7.8	340	2900
M-59	CH-CCR-M59-217_O	22-Feb-17	0.48	86	1200	1.3	7.8	330	2800
M-59	CH-CCR-M59-41117_O	11-Apr-17	0.49	90	1400	1.3	8.1	350	2800
M-59	CH-CCR-M59-42417_O	24-Apr-17	0.52	89	1300	1.4	7.7	350	2800
M-59	CH-CCR-M59-51917_O	19-May-17	0.5	93	1400	1.4	7.8	360	2700
M-59	CH-CCR-M59-52517_O	25-May-17	0.5	88	1300	1.4	7.6	350	2700
M-59	CH-CCR-M59-62917_O	29-Jun-17	0.49	84	1400	1.5	7.8	370	2500
M-59	CH-CCR-M59-72917_O	29-Jul-17	0.53	92	1300	1.5	7.6	340	2800
M-59	CH-CCR-M59-90517_O	05-Sep-17	0.51	90	1300	1.4	7.7	360	2700
M-59	CH-CCR-M59-120717_O	07-Dec-17	0.49	86	1400	1.4	7.7	350	2700
M-59	CH-CCR-M-59-52518_O	25-May-18	0.49	85	1400	1.4	7.5	350	2700
M-59	CH-CCR-M-59-102618	26-Oct-18	0.48	88	1400	1.4	7.6	360	2500
M-59	CH-CCR-M59-40919	09-Apr-19	0.5	86	1200	1.4	7.9	330	2700
M-59	CH-CCR-M59-102319	23-Oct-19	0.48	84	1400	1.3	7.5	350	2800
M-59	CH-CCR-M59-0520	07-May-20	0.5	89	1200	1.8	7.7	350	2800
M-59	CH-CCR-M59-1020	21-Oct-20	0.48	85	1300	1.4	7.5	340	2700
M-59	CH-CCR-M59-0421	16-Apr-21	0.49	87	1200	1.4	7.6	340	2800
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]:	*0.55*	*101*	*1600*	*1.8*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3]:	*None*	*None*	*None*	*None*	*None*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-60	7801_O	03-Dec-15	0.54	88	1400	1.3	7.56	350	2800
M-60	CH-M-60A-0316_O	09-Mar-16	0.5	86	1400	1.4	7.83	350	2800
M-60	CH-CCR-M60-516_O	20-May-16	0.5	89	1400	1.5	---	350	2800
M-60	CH-CCR-M60-816_O	27-Aug-16	0.52	90	1400	1.5	7.5	360	2800
M-60	CH-CCR-M60-916_O	22-Sep-16	0.51	88	1300	1.4	7.8	350	3000
M-60	CH-CCR-M60-217_O	22-Feb-17	0.52	91	1300	1.4	7.8	340	2800
M-60	CH-CCR-M60-41117_O	11-Apr-17	0.48	90	1400	1.4	8	360	2900
M-60	CH-CCR-M60-42417_O	24-Apr-17	0.53	86	1400	1.4	7.8	350	2700
M-60	CH-CCR-M60-51917_O	19-May-17	0.53	92	1400	1.4	7.7	360	2800
M-60	CH-CCR-M60-52517_O	25-May-17	0.51	86	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-62917_O	29-Jun-17	0.51	84	1500	1.5	7.7	440	2500
M-60	CH-CCR-M60-72917_O	29-Jul-17	0.53	89	1400	1.5	7.6	370	2800
M-60	CH-CCR-M60-90517_O	05-Sep-17	0.53	90	1400	1.5	7.6	360	2800
M-60	CH-CCR-M60-120717_O	07-Dec-17	0.5	85	1500	1.4	7.6	360	2900
M-60	CH-CCR-M-60-52518_O	25-May-18	0.5	83	1400	1.5	7.5	350	2800
M-60	CH-CCR-M-60-102618	26-Oct-18	0.49	88	1400	1.4	7.7	350	2600
M-60	CH-CCR-M60-40919	09-Apr-19	0.51	84	1300	1.4	7.7	350	2800
M-60	CH-CCR-M60-102219	22-Oct-19	0.5	85	1400	1.4	7.6	360	2800
M-60	CH-CCR-M60-0520	07-May-20	0.5	88	1200	1.7	7.7	350	2900
M-60	CH-CCR-M60-1020	21-Oct-20	0.48	82	1400	1.4	7.5	340	2900
M-60	CH-CCR-M60-0421	16-Apr-21	0.49	85	1300	1.5	7.8	340	4200
M-60	CH-CCR-M60-0721	07-Jul-21	---	---	---	---	---	---	2700
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]*:*	*0.55*	*101*	*1600*	*1.7*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3]*:*	*Decreasing*	*Decreasing*	*None*	*None*	*Decreasing*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS
M-61	7802_O	03-Dec-15	0.51	90	1400	1.3	7.22	350	2800
M-61	CH-M-61-0316_O	10-Mar-16	0.49	90	1400	1.4	7.59	340	2800
M-61	CH-CCR-M61-516_O	20-May-16	0.49	89	1400	1.4	---	350	2800
M-61	CH-CCR-M61-816_O	27-Aug-16	0.5	90	1400	1.5	7.5	360	2900
M-61	CH-CCR-M61-916_O	22-Sep-16	0.5	90	1300	1.4	7.9	350	3000
M-61	CH-CCR-M61-217_O	22-Feb-17	0.5	92	1100	1.4	7.8	340	2700
M-61	CH-CCR-M61-41117_O	11-Apr-17	0.5	93	1700	1.4	8	420	3000
M-61	CH-CCR-M61-42417_O	24-Apr-17	0.52	88	1400	1.4	7.7	360	2700
M-61	CH-CCR-M61-51917_O	19-May-17	0.5	92	1400	1.3	7.8	370	2800
M-61	CH-CCR-M61-52517_O	25-May-17	0.51	92	1400	1.4	7.7	370	2800
M-61	CH-CCR-M61-62917_O	29-Jun-17	0.5	86	1500	1.5	7.8	380	2700
M-61	CH-CCR-M61-72917_O	29-Jul-17	0.52	94	1300	1.5	7.6	360	2900
M-61	CH-CCR-M61-90517_O	05-Sep-17	0.5	91	1400	1.5	7.6	360	2800
M-61	CH-CCR-M61-120717_O	07-Dec-17	0.49	88	1500	1.4	7.6	360	2900
M-61	CH-CCR-M-61-52518_O	25-May-18	0.48	87	1400	1.5	7.5	390	2800
M-61	CH-CCR-M-61-102618	26-Oct-18	0.48	91	1400	1.4	7.5	360	2600
M-61	CH-CCR-M61-40919	09-Apr-19	0.5	88	1300	1.4	7.7	340	2800
M-61	CH-CCR-M61-102219	22-Oct-19	0.48	87	1400	1.4	7.8	350	2700
M-61	CH-CCR-M61-0520	07-May-20	0.51	93	1300	1.6	7.7	350	3000
M-61	CH-CCR-M61-1020	21-Oct-20	0.48	88	1400	1.4	7.5	350	2700
M-61	CH-CCR-M61-0421	04/16/2021	0.49	91	1300	1.5	7.8	340	2900
		Units:	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*SU*	*mg/L*	*mg/L*
		BTV or Intrawell UPL [1,2]*:*	*0.55*	*101*	*1600*	*1.6*	*7.8/7.3*	*380*	*3225*
		Temporal Trend [3]*:*	*None*	*None*	*None*	*None*	*None*	*None*	*None*

Table 2
Cholla BAM Downgradient Sample Data Summary
Appendix III Statistical Analysis

Well	Sample_ID	SampDate	Constituent Concentration						
			Boron	Calcium	Chloride	Fluoride	pH	Sulfate	TDS

Notes:
BTV = background threshold value
mg/L = milligrams per liter
TDS = total dissolved solids
UPL = upper prediction limit
SU = standard units

0.50	Value from baseline monitoring period (December 2015 to September 2017)
(red)	Reported value in current sampling round exceeds the BTV or UPL
(yellow)	Statistically significant increasing trend present
None	Insufficient evidence to identify a trend.

[1] New values calculated for this sampling round presented in bolded red text; see Table 1 for relevant BTV and Intrawell UPL information
[2] For pH, values presented refer to the Upper Prediction Limit/Lower Prediction Limit, respectively
[3] Temporal trends evaluated with Mann-Kendall trend tests ($p<0.05$); tied values (sequential sample concentrations

APPENDIX A

PROUCL DATA UPLOAD TABLE

Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	Sample Date	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-54	7799	12/03/2015	12/3/2015	0.52	1	100	1	1500	1	1.2	1	7.34	1	380	1	3000	1
M-54	CH-M-54-0316	03/10/2016	3/10/2016	0.53	1	100	1	1600	1	1.3	1	7.56	1	360	1	2900	1
M-54	CH-CCR-M54-516	05/20/2016	5/20/2016	0.51	1	100	1	1500	1	1.4	1	NA	NA	350	1	3000	1
M-54	CH-CCR-M54-816	08/27/2016	8/27/2016	0.53	1	110	1	1600	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-916	09/22/2016	9/22/2016	0.52	1	99	1	1400	1	1.4	1	7.7	1	350	1	3200	1
M-54	CH-CCR-M54-217	02/21/2017	2/21/2017	0.52	1	100	1	1300	1	1.3	1	7.7	1	350	1	2900	1
M-54	CH-CCR-M54-41117	04/11/2017	4/11/2017	0.51	1	100	1	1500	1	1.2	1	7.7	1	360	1	3100	1
M-54	CH-CCR-M54-42417	04/24/2017	4/24/2017	0.53	1	95	1	1500	1	1.3	1	7.6	1	370	1	3000	1
M-54	CH-CCR-M54-51917	05/19/2017	5/19/2017	0.5	1	99	1	1600	1	1.3	1	7.8	1	380	1	3200	1
M-54	CH-CCR-M54-52517	05/25/2017	5/25/2017	0.52	1	100	1	1500	1	1.4	1	7.7	1	370	1	3200	1
M-54	CH-CCR-M54-62917	06/29/2017	6/29/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	380	1	2900	1
M-54	CH-CCR-M54-72917	07/29/2017	7/29/2017	0.56	1	100	1	1500	1	1.4	1	7.4	1	350	1	3100	1
M-54	CH-CCR-M54-90517	09/05/2017	9/5/2017	0.55	1	100	1	1500	1	1.4	1	7.5	1	370	1	3100	1
M-54	CH-CCR-M54-120717	12/07/2017	12/7/2017	0.51	1	97	1	1600	1	1.4	1	7.6	1	360	1	3000	1
M-54	CH-CCR-M-54-52518	05/25/2018	5/25/2018	0.5	1	96	1	1500	1	1.4	1	7.4	1	350	1	3000	1
M-54	CH-CCR-M-54-102618	10/26/2018	10/26/2018	0.5	1	100	1	1500	1	1.4	1	7.5	1	360	1	2900	1
M-54	CH-CCR-M54-40919	04/09/2019	4/9/2019	0.53	1	98	1	1400	1	1.3	1	7.7	1	340	1	3100	1
M-54	CH-CCR-M54-102219	10/22/2019	10/22/2019	0.49	1	95	1	1500	1	1.3	1	7.4	1	350	1	2900	1
M-54	CH-CCR-M54-0520	05/07/2020	5/7/2020	0.51	1	98	1	1400	1	1.8	1	7.6	1	360	1	3100	1
M-54	CH-CCR-M54-1020	10/21/2020	10/21/2020	0.48	1	92	1	1500	1	1.3	1	7.3	1	350	1	2900	1
M-54	CH-CCR-M54-0421	04/16/2021	4/16/2021	0.52	1	100	1	1700	1	1.4	1	7.6	1	420	1	3300	1
M-59	7803	12/03/2015	12/3/2015	0.5	1	87	1	1300	1	1.3	1	7.53	1	340	1	2700	1
M-59	CH-M-59-0316	03/10/2016	3/10/2016	0.48	1	85	1	1400	1	1.3	1	7.57	1	350	1	2700	1
M-59	CH-CCR-M59-516	05/20/2016	5/20/2016	0.49	1	86	1	1400	1	1.4	1	NA	NA	340	1	2700	1
M-59	CH-CCR-M59-816	08/27/2016	8/27/2016	0.5	1	89	1	1400	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-916	09/22/2016	9/22/2016	0.5	1	88	1	1300	1	1.4	1	7.8	1	340	1	2900	1
M-59	CH-CCR-M59-217	02/22/2017	2/22/2017	0.48	1	86	1	1200	1	1.3	1	7.8	1	330	1	2800	1
M-59	CH-CCR-M59-41117	04/11/2017	4/11/2017	0.49	1	90	1	1400	1	1.3	1	8.1	1	350	1	2800	1
M-59	CH-CCR-M59-42417	04/24/2017	4/24/2017	0.52	1	89	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-51917	05/19/2017	5/19/2017	0.5	1	93	1	1400	1	1.4	1	7.8	1	360	1	2700	1
M-59	CH-CCR-M59-52517	05/25/2017	5/25/2017	0.5	1	88	1	1300	1	1.4	1	7.6	1	350	1	2700	1
M-59	CH-CCR-M59-62917	06/29/2017	6/29/2017	0.49	1	84	1	1400	1	1.5	1	7.8	1	370	1	2500	1
M-59	CH-CCR-M59-72917	07/29/2017	7/29/2017	0.53	1	92	1	1300	1	1.5	1	7.6	1	340	1	2800	1
M-59	CH-CCR-M59-90517	09/05/2017	9/5/2017	0.51	1	90	1	1300	1	1.4	1	7.7	1	360	1	2700	1
M-59	CH-CCR-M59-120717	12/07/2017	12/7/2017	0.49	1	86	1	1400	1	1.4	1	7.7	1	350	1	2700	1
M-59	CH-CCR-M-59-52518	05/25/2018	5/25/2018	0.49	1	85	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-59	CH-CCR-M-59-102618	10/26/2018	10/26/2018	0.48	1	88	1	1400	1	1.4	1	7.6	1	360	1	2500	1
M-59	CH-CCR-M59-40919	04/09/2019	4/9/2019	0.5	1	86	1	1200	1	1.4	1	7.9	1	330	1	2700	1
M-59	CH-CCR-M59-102319	10/23/2019	10/23/2019	0.48	1	84	1	1400	1	1.3	1	7.5	1	350	1	2800	1
M-59	CH-CCR-M59-0520	05/07/2020	5/7/2020	0.5	1	89	1	1200	1	1.8	1	7.7	1	350	1	2800	1
M-59	CH-CCR-M59-1020	10/21/2020	10/21/2020	0.48	1	85	1	1300	1	1.4	1	7.5	1	340	1	2700	1
M-59	CH-CCR-M59-0421	04/16/2021	4/16/2021	0.49	1	87	1	1200	1	1.4	1	7.6	1	340	1	2800	1
M-60	7801	12/03/2015	12/3/2015	0.54	1	88	1	1400	1	1.3	1	7.56	1	350	1	2800	1
M-60	CH-M-60A-0316	03/09/2016	3/9/2016	0.5	1	86	1	1400	1	1.4	1	7.83	1	350	1	2800	1
M-60	CH-CCR-M60-516	05/20/2016	5/20/2016	0.5	1	89	1	1400	1	1.5	1	NA	NA	350	1	2800	1
M-60	CH-CCR-M60-816	08/27/2016	8/27/2016	0.52	1	90	1	1400	1	1.5	1	7.5	1	360	1	2800	1
M-60	CH-CCR-M60-916	09/22/2016	9/22/2016	0.51	1	88	1	1300	1	1.5	1	7.8	1	350	1	3000	1
M-60	CH-CCR-M60-217	02/22/2017	2/22/2017	0.52	1	91	1	1300	1	1.4	1	7.8	1	340	1	2800	1
M-60	CH-CCR-M60-41117	04/11/2017	4/11/2017	0.48	1	90	1	1400	1	1.4	1	8	1	360	1	2900	1
M-60	CH-CCR-M60-42417	04/24/2017	4/24/2017	0.53	1	86	1	1400	1	1.4	1	7.8	1	350	1	2700	1

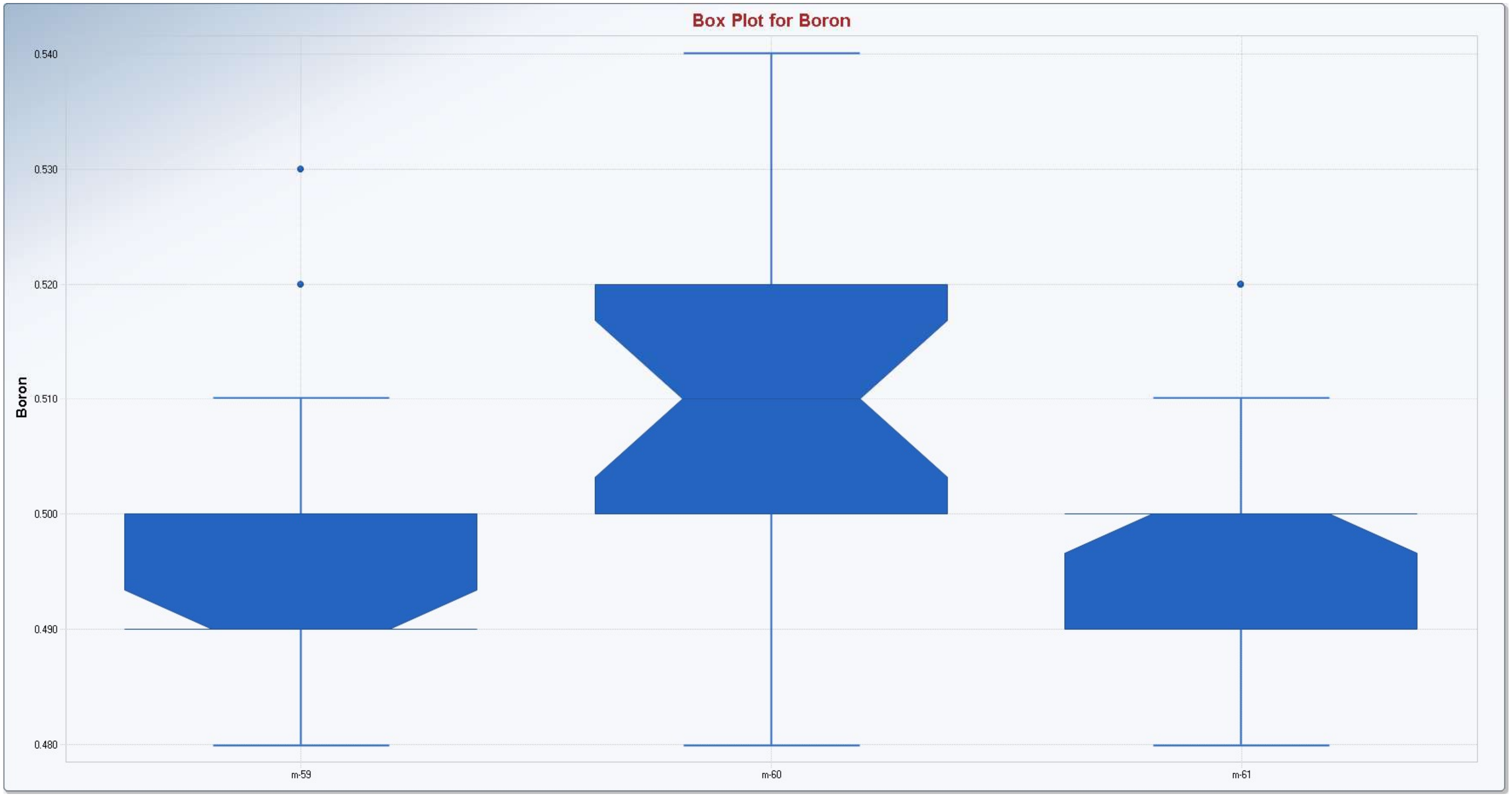
Appendix A - PROUCL DATA UPLOAD TABLE

Well Name	Field Sample ID	Sample Date	NumDate	Boron	D_Boron	Calcium	D_Calcium	Chloride	D_Chloride	Fluoride	D_Fluoride	pH	D_pH	Sulfate	D_Sulfate	TDS	D_TDS
M-60	CH-CCR-M60-51917	05/19/2017	5/19/2017	0.53	1	92	1	1400	1	1.4	1	7.7	1	360	1	2800	1
M-60	CH-CCR-M60-52517	05/25/2017	5/25/2017	0.51	1	86	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-62917	06/29/2017	6/29/2017	0.51	1	84	1	1500	1	1.5	1	7.7	1	440	1	2500	1
M-60	CH-CCR-M60-72917	07/29/2017	7/29/2017	0.53	1	89	1	1400	1	1.5	1	7.6	1	370	1	2800	1
M-60	CH-CCR-M60-90517	09/05/2017	9/5/2017	0.53	1	90	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-120717	12/07/2017	12/7/2017	0.5	1	85	1	1500	1	1.4	1	7.6	1	360	1	2900	1
M-60	CH-CCR-M-60-52518	05/25/2018	5/25/2018	0.5	1	83	1	1400	1	1.5	1	7.5	1	350	1	2800	1
M-60	CH-CCR-M-60-102618	10/26/2018	10/26/2018	0.49	1	88	1	1400	1	1.4	1	7.7	1	350	1	2600	1
M-60	CH-CCR-M60-40919	04/09/2019	4/9/2019	0.51	1	84	1	1300	1	1.4	1	7.7	1	350	1	2800	1
M-60	CH-CCR-M60-102219	10/22/2019	10/22/2019	0.5	1	85	1	1400	1	1.4	1	7.6	1	360	1	2800	1
M-60	CH-CCR-M60-0520	05/07/2020	5/7/2020	0.5	1	88	1	1200	1	1.7	1	7.7	1	350	1	2900	1
M-60	CH-CCR-M60-1020	10/21/2020	10/21/2020	0.48	1	82	1	1400	1	1.4	1	7.5	1	340	1	2900	1
M-60	CH-CCR-M60-0421	04/16/2021	4/16/2021	0.49	1	85	1	1300	1	1.5	1	7.8	1	340	1	4200	1
M-60	CH-CCR-M60-0721	07/07/2021	7/7/2021	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2700	NA
M-61	7802	12/03/2015	12/3/2015	0.51	1	90	1	1400	1	1.3	1	7.22	1	350	1	2800	1
M-61	CH-M-61-0316	03/10/2016	3/10/2016	0.49	1	90	1	1400	1	1.4	1	7.59	1	340	1	2800	1
M-61	CH-CCR-M61-516	05/20/2016	5/20/2016	0.49	1	89	1	1400	1	1.4	1	NA	NA	350	1	2800	1
M-61	CH-CCR-M61-816	08/27/2016	8/27/2016	0.5	1	90	1	1400	1	1.5	1	7.5	1	360	1	2900	1
M-61	CH-CCR-M61-916	09/22/2016	9/22/2016	0.5	1	90	1	1300	1	1.5	1	7.9	1	350	1	3000	1
M-61	CH-CCR-M61-217	02/22/2017	2/22/2017	0.5	1	92	1	1100	1	1.4	1	7.8	1	340	1	2700	1
M-61	CH-CCR-W61-217	02/22/2017	2/22/2017	NA	NA	NA	NA	NA	NA	1.5	1	NA	NA	NA	NA	NA	NA
M-61	CH-CCR-M61-41117	04/11/2017	4/11/2017	0.5	1	93	1	1700	1	1.3	1	8	1	420	1	3000	1
M-61	CH-CCR-M61-42417	04/24/2017	4/24/2017	0.52	1	88	1	1400	1	1.4	1	7.7	1	360	1	2700	1
M-61	CH-CCR-M61-51917	05/19/2017	5/19/2017	0.5	1	92	1	1400	1	1.3	1	7.8	1	370	1	2800	1
M-61	CH-CCR-M61-52517	05/25/2017	5/25/2017	0.51	1	92	1	1400	1	1.4	1	7.7	1	370	1	2800	1
M-61	CH-CCR-M61-62917	06/29/2017	6/29/2017	0.5	1	86	1	1500	1	1.5	1	7.8	1	380	1	2700	1
M-61	CH-CCR-M61-72917	07/29/2017	7/29/2017	0.52	1	94	1	1300	1	1.5	1	7.6	1	360	1	2900	1
M-61	CH-CCR-M61-90517	09/05/2017	9/5/2017	0.5	1	91	1	1400	1	1.5	1	7.6	1	360	1	2800	1
M-61	CH-CCR-M61-120717	12/07/2017	12/7/2017	0.49	1	88	1	1500	1	1.4	1	7.6	1	360	1	2900	1
M-61	CH-CCR-M-61-52518	05/25/2018	5/25/2018	0.48	1	87	1	1400	1	1.5	1	7.5	1	390	1	2800	1
M-61	CH-CCR-M-61-102618	10/26/2018	10/26/2018	0.48	1	91	1	1400	1	1.4	1	7.5	1	360	1	2600	1
M-61	CH-CCR-M61-40919	04/09/2019	4/9/2019	0.5	1	88	1	1300	1	1.4	1	7.7	1	340	1	2800	1
M-61	CH-CCR-M61-102219	10/22/2019	10/22/2019	0.48	1	87	1	1400	1	1.4	1	7.8	1	350	1	2700	1
M-61	CH-CCR-M61-0520	05/07/2020	5/7/2020	0.51	1	93	1	1300	1	1.6	1	7.7	1	350	1	3000	1
M-61	CH-CCR-M61-1020	10/21/2020	10/21/2020	0.48	1	88	1	1400	1	1.4	1	7.5	1	350	1	2700	1
M-61	CH-CCR-M61-0421	04/16/2021	4/16/2021	0.49	1	91	1	1300	1	1.5	1	7.8	1	340	1	2900	1

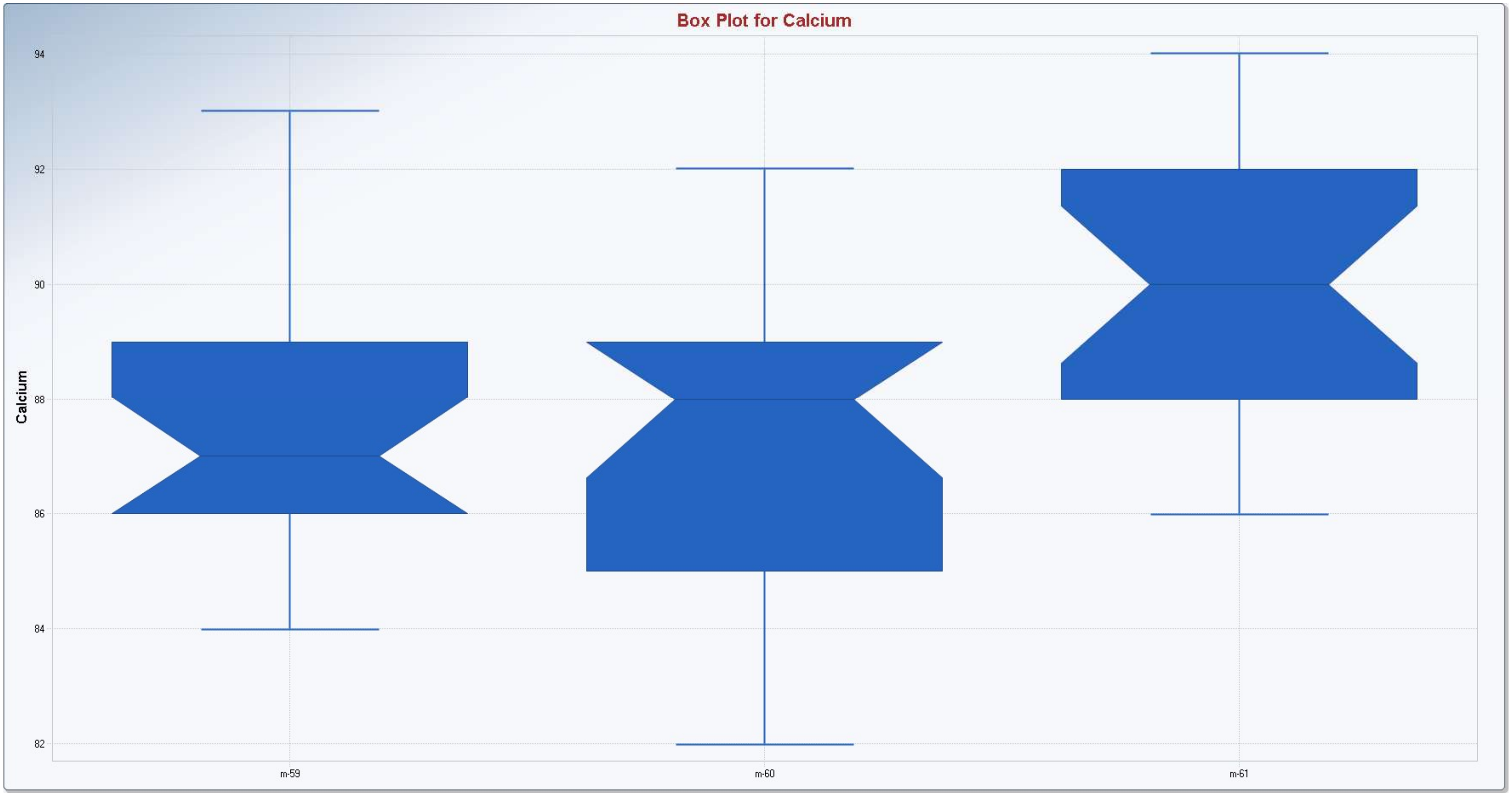
APPENDIX B

PROUCL EDA OUTPUT FILES

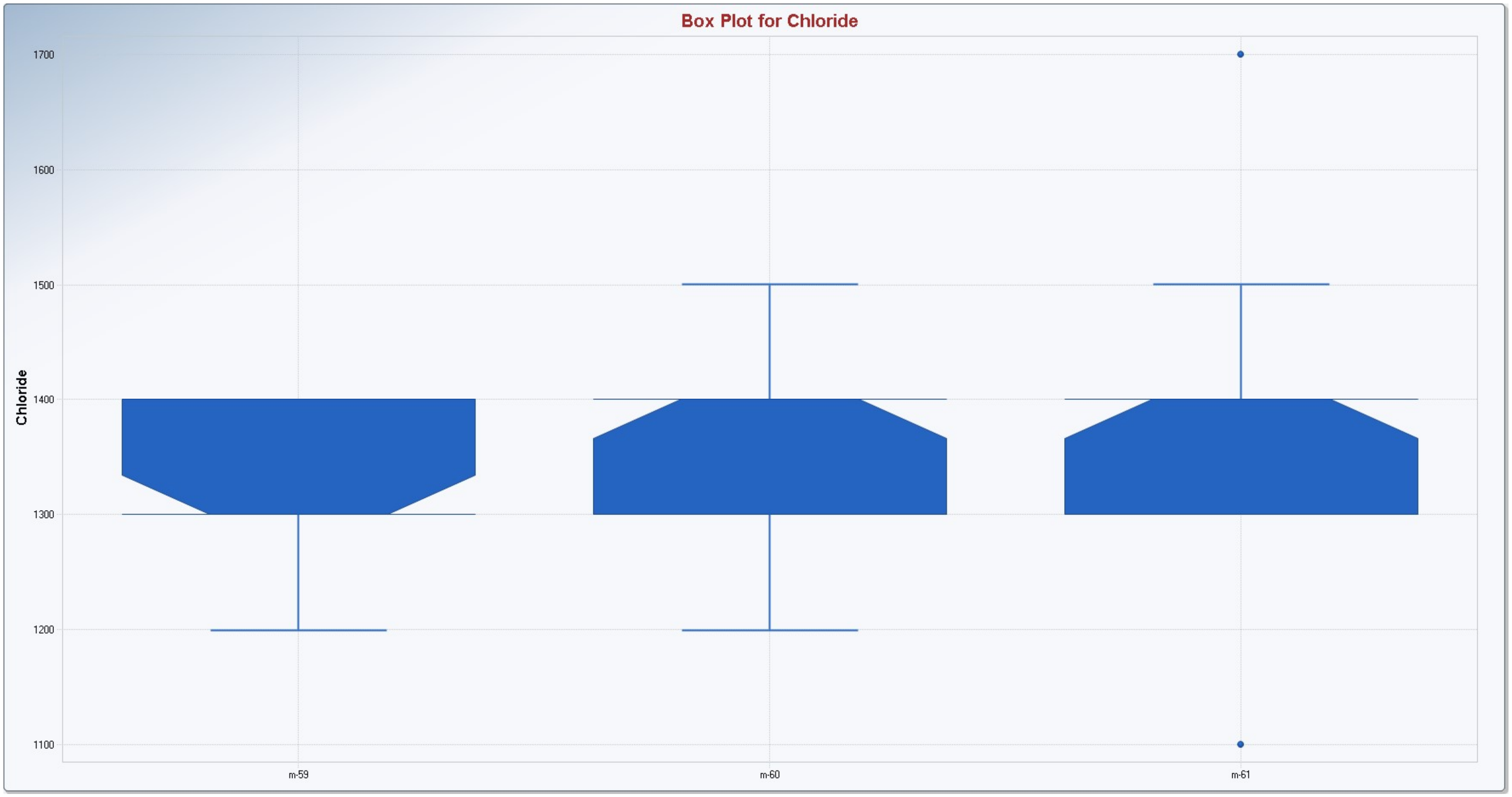
Appendix B
Box and Whisker Plots



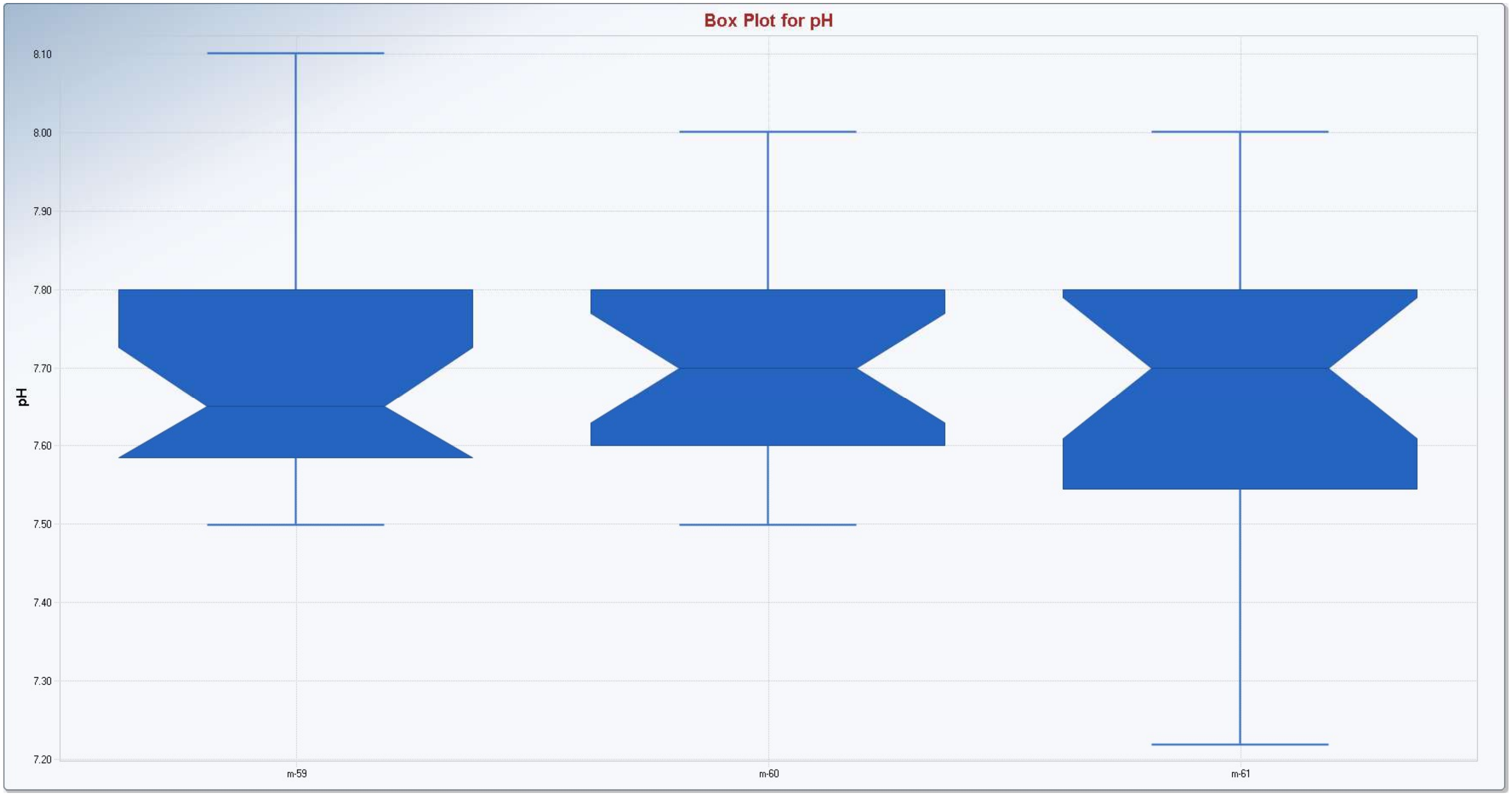
Appendix B
Box and Whisker Plots



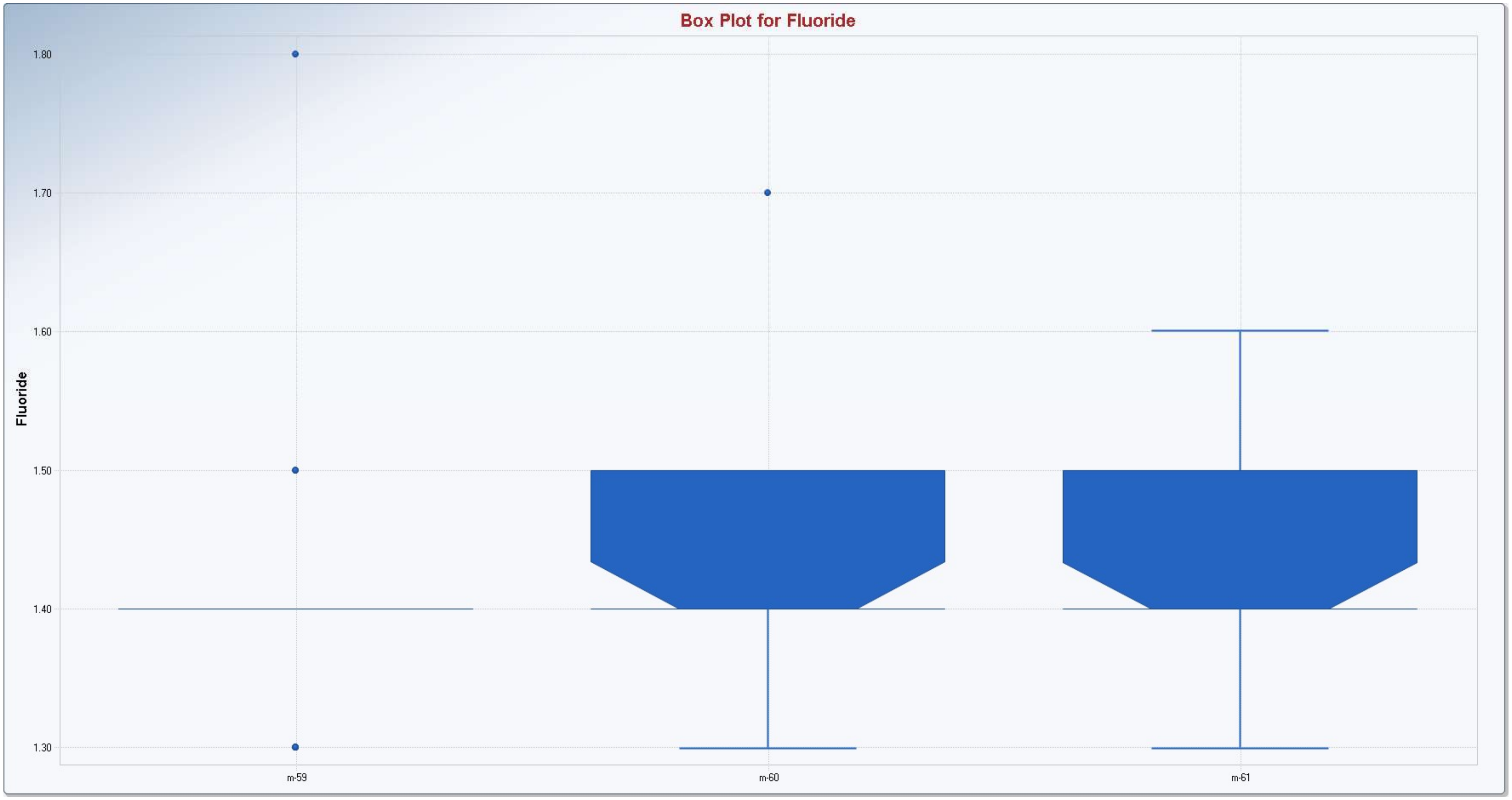
Appendix B
Box and Whisker Plots



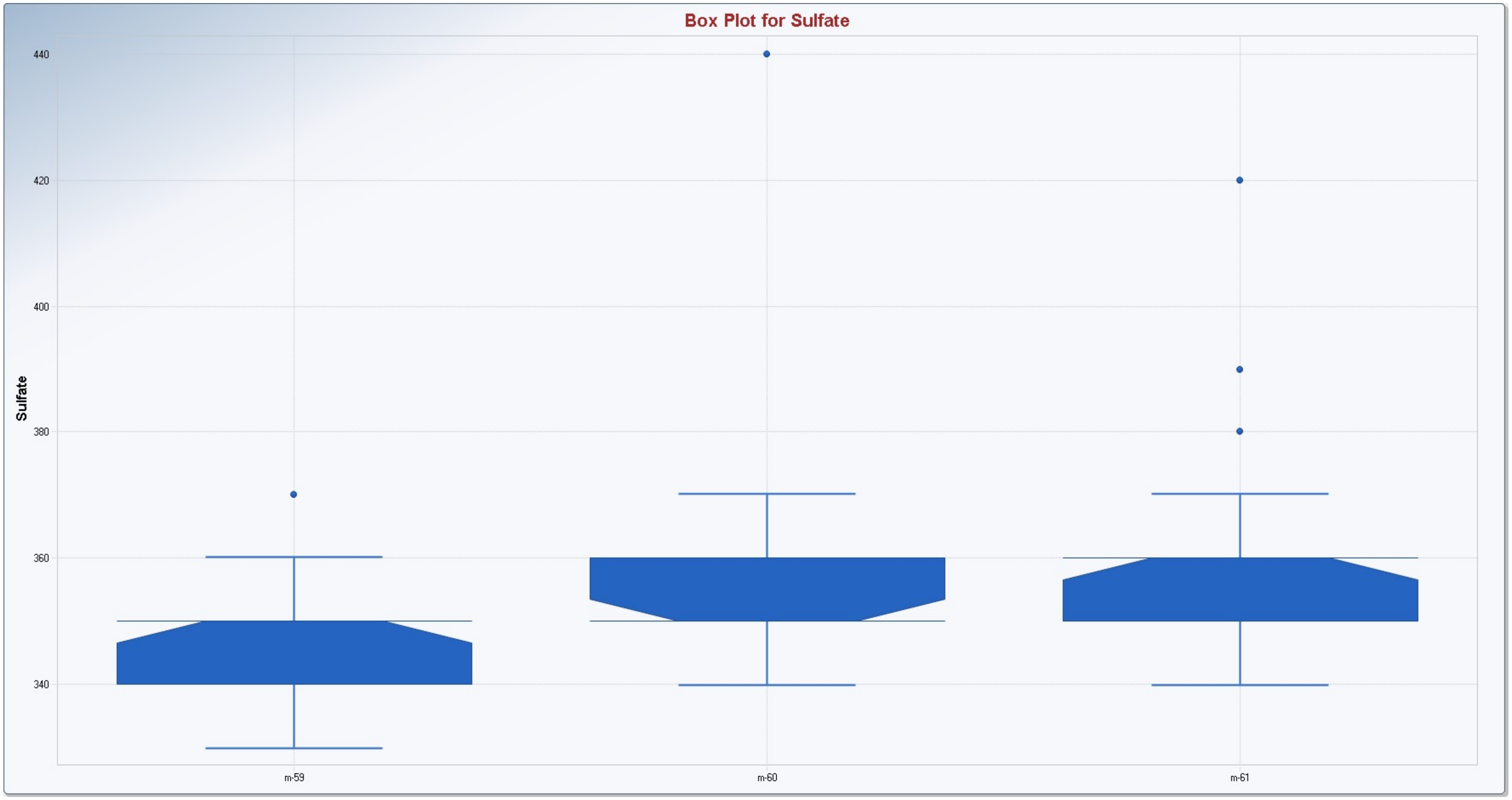
Appendix B
Box and Whisker Plots



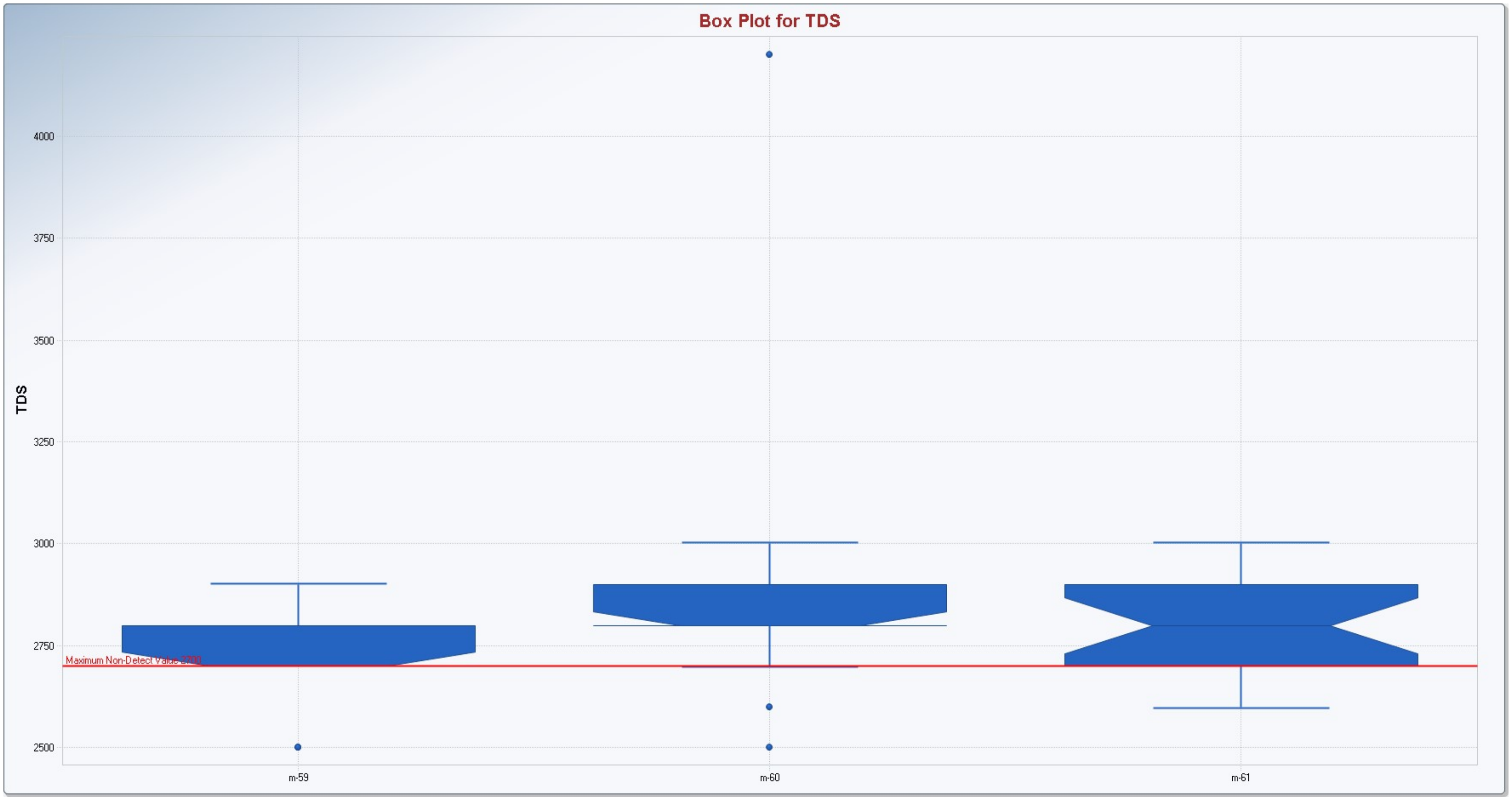
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:10:31 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95

Boron (m-59)

Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	6
Minimum	0.48
Maximum	0.53
Mean of Raw Data	0.495
Standard Deviation of Raw Data	0.0133
Khat	1484
Theta hat	3.3368E-4
Kstar	1272
Theta star	3.8929E-4
Mean of Log Transformed Data	-0.703
Standard Deviation of Log Transformed Data	0.0265
Normal GOF Test Results	
Correlation Coefficient R	0.935
Shapiro Wilk Test Statistic	0.874
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.00947
Lilliefors Test Statistic	0.217
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.938
A-D Test Statistic	0.946
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.21

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.938
Shapiro Wilk Test Statistic	0.879
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.0122
Lilliefors Test Statistic	0.211
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Boron (m-60)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	7
Minimum	0.48
Maximum	0.54
Mean of Raw Data	0.509
Standard Deviation of Raw Data	0.0171
Khat	928.6
Theta hat	5.4770E-4
Kstar	795.9
Theta star	6.3896E-4
Mean of Log Transformed Data	-0.677
Standard Deviation of Log Transformed Data	0.0336
Normal GOF Test Results	
Correlation Coefficient R	0.976
Shapiro Wilk Test Statistic	0.944
Shapiro Wilk Critical (0.05) Value	0.908

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Approximate Shapiro Wilk P Value	0.257
Lilliefors Test Statistic	0.168
Lilliefors Critical (0.05) Value	0.188
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.975
A-D Test Statistic	0.538
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.17
K-S Critical(0.05) Value	0.189
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.976
Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.266
Lilliefors Test Statistic	0.164
Lilliefors Critical (0.05) Value	0.188
Data appear Lognormal at (0.05) Significance Level	
Boron (m-61)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	5
Minimum	0.48
Maximum	0.52
Mean of Raw Data	0.498
Standard Deviation of Raw Data	0.0122
Khat	1747
Theta hat	2.8483E-4
Kstar	1498
Theta star	3.3230E-4
Mean of Log Transformed Data	-0.698

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Standard Deviation of Log Transformed Data	0.0245
Normal GOF Test Results	
Correlation Coefficient R	0.961
Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.0597
Lilliefors Test Statistic	0.196
Lilliefors Critical (0.05) Value	0.188
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.961
A-D Test Statistic	0.777
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.201
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.962
Shapiro Wilk Test Statistic	0.913
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.0598
Lilliefors Test Statistic	0.201
Lilliefors Critical (0.05) Value	0.188
Data appear Approximate_Lognormal at (0.05) Significance Level	
Calcium (m-59)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	9
Minimum	84
Maximum	93
Mean of Raw Data	87.48

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Standard Deviation of Raw Data	2.482
Khat	1316
Theta hat	0.0665
Kstar	1128
Theta star	0.0775
Mean of Log Transformed Data	4.471
Standard Deviation of Log Transformed Data	0.0282
Normal GOF Test Results	
Correlation Coefficient R	0.977
Shapiro Wilk Test Statistic	0.948
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.31
Lilliefors Test Statistic	0.153
Lilliefors Critical (0.05) Value	0.188
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.978
A-D Test Statistic	0.379
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.157
K-S Critical(0.05) Value	0.189
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.979
Shapiro Wilk Test Statistic	0.952
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.361
Lilliefors Test Statistic	0.151
Lilliefors Critical (0.05) Value	0.188
Data appear Lognormal at (0.05) Significance Level	
Calcium (m-60)	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	10
Minimum	82
Maximum	92
Mean of Raw Data	87.1
Standard Deviation of Raw Data	2.773
Khat	1034
Theta hat	0.0843
Kstar	886
Theta star	0.0983
Mean of Log Transformed Data	4.467
Standard Deviation of Log Transformed Data	0.0319
Normal GOF Test Results	
Correlation Coefficient R	0.987
Shapiro Wilk Test Statistic	0.967
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.644
Lilliefors Test Statistic	0.152
Lilliefors Critical (0.05) Value	0.188
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.986
A-D Test Statistic	0.368
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.158
K-S Critical(0.05) Value	0.189
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.987
Shapiro Wilk Test Statistic	0.966
Shapiro Wilk Critical (0.05) Value	0.908

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Approximate Shapiro Wilk P Value	0.633
Lilliefors Test Statistic	0.157
Lilliefors Critical (0.05) Value	0.188
Data appear Lognormal at (0.05) Significance Level	
Calcium (m-61)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	9
Minimum	86
Maximum	94
Mean of Raw Data	90
Standard Deviation of Raw Data	2.236
Khat	1699
Theta hat	0.053
Kstar	1457
Theta star	0.0618
Mean of Log Transformed Data	4.5
Standard Deviation of Log Transformed Data	0.0249
Normal GOF Test Results	
Correlation Coefficient R	0.985
Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.577
Lilliefors Test Statistic	0.148
Lilliefors Critical (0.05) Value	0.188
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.984
A-D Test Statistic	0.375
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.154
K-S Critical(0.05) Value	0.189

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.985
Shapiro Wilk Test Statistic	0.963
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.568
Lilliefors Test Statistic	0.147
Lilliefors Critical (0.05) Value	0.188
Data appear Lognormal at (0.05) Significance Level	
Chloride (m-59)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	3
Minimum	1200
Maximum	1400
Mean of Raw Data	1329
Standard Deviation of Raw Data	78.38
Khat	294.9
Theta hat	4.506
Kstar	252.8
Theta star	5.256
Mean of Log Transformed Data	7.19
Standard Deviation of Log Transformed Data	0.06
Normal GOF Test Results	
Correlation Coefficient R	0.891
Shapiro Wilk Test Statistic	0.776
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	1.5393E-4
Lilliefors Test Statistic	0.295
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Correlation Coefficient R	0.882
A-D Test Statistic	2.038
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.299
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.89
Shapiro Wilk Test Statistic	0.774
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	1.4262E-4
Lilliefors Test Statistic	0.292
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (m-60)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	4
Minimum	1200
Maximum	1500
Mean of Raw Data	1376
Standard Deviation of Raw Data	70.03
Khat	396.5
Theta hat	3.47
Kstar	339.9
Theta star	4.049
Mean of Log Transformed Data	7.226
Standard Deviation of Log Transformed Data	0.0518

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Normal GOF Test Results	
Correlation Coefficient R	0.891
Shapiro Wilk Test Statistic	0.807
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	5.2275E-4
Lilliefors Test Statistic	0.347
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.89
A-D Test Statistic	2.248
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.355
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.888
Shapiro Wilk Test Statistic	0.801
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	4.1187E-4
Lilliefors Test Statistic	0.353
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Chloride (m-61)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	5

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Minimum	1100
Maximum	1700
Mean of Raw Data	1386
Standard Deviation of Raw Data	110.8
Khat	163.8
Theta hat	8.461
Kstar	140.4
Theta star	9.868
Mean of Log Transformed Data	7.231
Standard Deviation of Log Transformed Data	0.0803
Normal GOF Test Results	
Correlation Coefficient R	0.882
Shapiro Wilk Test Statistic	0.811
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	6.2253E-4
Lilliefors Test Statistic	0.306
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.889
A-D Test Statistic	1.855
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.295
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.882
Shapiro Wilk Test Statistic	0.811
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	6.1598E-4
Lilliefors Test Statistic	0.291
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-59)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.8
Mean of Raw Data	1.405
Standard Deviation of Raw Data	0.107
Khat	200
Theta hat	0.00702
Kstar	171.4
Theta star	0.00819
Mean of Log Transformed Data	0.337
Standard Deviation of Log Transformed Data	0.0708
Normal GOF Test Results	
Correlation Coefficient R	0.791
Shapiro Wilk Test Statistic	0.649
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	1.7534E-6
Lilliefors Test Statistic	0.375
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.807
A-D Test Statistic	2.531
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.367
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Lognormal GOF Test Results	
Correlation Coefficient R	0.816
Shapiro Wilk Test Statistic	0.686
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	5.9974E-6
Lilliefors Test Statistic	0.362
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-60)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.7
Mean of Raw Data	1.448
Standard Deviation of Raw Data	0.0814
Khat	345.4
Theta hat	0.00419
Kstar	296.1
Theta star	0.00489
Mean of Log Transformed Data	0.368
Standard Deviation of Log Transformed Data	0.0547
Normal GOF Test Results	
Correlation Coefficient R	0.866
Shapiro Wilk Test Statistic	0.774
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	1.4557E-4
Lilliefors Test Statistic	0.292

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.875
A-D Test Statistic	2.02
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.297
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.876
Shapiro Wilk Test Statistic	0.79
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	2.7084E-4
Lilliefors Test Statistic	0.292
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Fluoride (m-61)	
Raw Statistics	
Number of Valid Observations	22
Number of Distinct Observations	4
Minimum	1.3
Maximum	1.6
Mean of Raw Data	1.432
Standard Deviation of Raw Data	0.078
Khat	352.1
Theta hat	0.00407
Kstar	304.2
Theta star	0.00471

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Mean of Log Transformed Data	0.358
Standard Deviation of Log Transformed Data	0.0546
Normal GOF Test Results	
Correlation Coefficient R	0.929
Shapiro Wilk Test Statistic	0.863
Shapiro Wilk Critical (0.05) Value	0.911
Approximate Shapiro Wilk P Value	0.0048
Lilliefors Test Statistic	0.249
Lilliefors Critical (0.05) Value	0.184
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.929
A-D Test Statistic	1.564
A-D Critical (0.05) Value	0.741
K-S Test Statistic	0.247
K-S Critical(0.05) Value	0.185
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.928
Shapiro Wilk Test Statistic	0.862
Shapiro Wilk Critical (0.05) Value	0.911
Approximate Shapiro Wilk P Value	0.00447
Lilliefors Test Statistic	0.241
Lilliefors Critical (0.05) Value	0.184
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
pH (m-59)	
Raw Statistics	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Number of Valid Observations	20
Number of Missing Observations	1
Number of Distinct Observations	8
Minimum	7.5
Maximum	8.1
Mean of Raw Data	7.68
Standard Deviation of Raw Data	0.154
Khat	2667
Theta hat	0.00288
Kstar	2267
Theta star	0.00339
Mean of Log Transformed Data	2.038
Standard Deviation of Log Transformed Data	0.0198
Normal GOF Test Results	
Correlation Coefficient R	0.946
Shapiro Wilk Test Statistic	0.898
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0385
Lilliefors Test Statistic	0.199
Lilliefors Critical (0.05) Value	0.192
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.949
A-D Test Statistic	0.677
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.21
K-S Critical(0.05) Value	0.193
Data follow Appr. Gamma Distribution at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.949
Shapiro Wilk Test Statistic	0.903
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.0482

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Lilliefors Test Statistic	0.198
Lilliefors Critical (0.05) Value	0.192
Data not Lognormal at (0.05) Significance Level	
pH (m-60)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	2
Number of Distinct Observations	7
Minimum	7.5
Maximum	8
Mean of Raw Data	7.685
Standard Deviation of Raw Data	0.13
Khat	3687
Theta hat	0.00208
Kstar	3134
Theta star	0.00245
Mean of Log Transformed Data	2.039
Standard Deviation of Log Transformed Data	0.0169
Normal GOF Test Results	
Correlation Coefficient R	0.965
Shapiro Wilk Test Statistic	0.931
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.176
Lilliefors Test Statistic	0.153
Lilliefors Critical (0.05) Value	0.192
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.966
A-D Test Statistic	0.576
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.157
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Lognormal GOF Test Results	
Correlation Coefficient R	0.966
Shapiro Wilk Test Statistic	0.933
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.19
Lilliefors Test Statistic	0.151
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
pH (m-61)	
Raw Statistics	
Number of Valid Observations	20
Number of Missing Observations	2
Number of Distinct Observations	8
Minimum	7.22
Maximum	8
Mean of Raw Data	7.666
Standard Deviation of Raw Data	0.176
Khat	1981
Theta hat	0.00387
Kstar	1684
Theta star	0.00455
Mean of Log Transformed Data	2.036
Standard Deviation of Log Transformed Data	0.0231
Normal GOF Test Results	
Correlation Coefficient R	0.968
Shapiro Wilk Test Statistic	0.949
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.351
Lilliefors Test Statistic	0.128
Lilliefors Critical (0.05) Value	0.192
Data appear Normal at (0.05) Significance Level	
Gamma GOF Test Results	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Correlation Coefficient R	0.969
A-D Test Statistic	0.465
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.133
K-S Critical(0.05) Value	0.193
Data appear Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.966
Shapiro Wilk Test Statistic	0.945
Shapiro Wilk Critical (0.05) Value	0.905
Approximate Shapiro Wilk P Value	0.298
Lilliefors Test Statistic	0.131
Lilliefors Critical (0.05) Value	0.192
Data appear Lognormal at (0.05) Significance Level	
Sulfate (m-59)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	5
Minimum	330
Maximum	370
Mean of Raw Data	347.6
Standard Deviation of Raw Data	9.952
Khat	1284
Theta hat	0.271
Kstar	1101
Theta star	0.316
Mean of Log Transformed Data	5.851
Standard Deviation of Log Transformed Data	0.0286
Normal GOF Test Results	
Correlation Coefficient R	0.954
Shapiro Wilk Test Statistic	0.914
Shapiro Wilk Critical (0.05) Value	0.908

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Approximate Shapiro Wilk P Value	0.0628
Lilliefors Test Statistic	0.215
Lilliefors Critical (0.05) Value	0.188
Data appear Approximate Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.956
A-D Test Statistic	0.963
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.219
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.955
Shapiro Wilk Test Statistic	0.915
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.065
Lilliefors Test Statistic	0.219
Lilliefors Critical (0.05) Value	0.188
Data appear Approximate_Lognormal at (0.05) Significance Level	
Sulfate (m-60)	
Raw Statistics	
Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	5
Minimum	340
Maximum	440
Mean of Raw Data	356.7
Standard Deviation of Raw Data	20.58
Khat	352.9
Theta hat	1.011
Kstar	302.6
Theta star	1.179
Mean of Log Transformed Data	5.875

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Standard Deviation of Log Transformed Data	0.0531
Normal GOF Test Results	
Correlation Coefficient R	0.723
Shapiro Wilk Test Statistic	0.551
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	8.9360E-8
Lilliefors Test Statistic	0.34
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.739
A-D Test Statistic	2.904
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.328
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.747
Shapiro Wilk Test Statistic	0.585
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	2.4092E-7
Lilliefors Test Statistic	0.325
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
Sulfate (m-61)	
Raw Statistics	
Number of Valid Observations	21

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Number of Missing Observations	1
Number of Distinct Observations	7
Minimum	340
Maximum	420
Mean of Raw Data	359.5
Standard Deviation of Raw Data	19.1
Khat	391.9
Theta hat	0.917
Kstar	335.9
Theta star	1.07
Mean of Log Transformed Data	5.884
Standard Deviation of Log Transformed Data	0.0511
Normal GOF Test Results	
Correlation Coefficient R	0.9
Shapiro Wilk Test Statistic	0.819
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	8.6826E-4
Lilliefors Test Statistic	0.252
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.909
A-D Test Statistic	1.109
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.245
K-S Critical(0.05) Value	0.189
Data not Gamma Distributed at (0.05) Significance Level	
Lognormal GOF Test Results	
Correlation Coefficient R	0.912
Shapiro Wilk Test Statistic	0.84
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	0.00212
Lilliefors Test Statistic	0.242

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21
Lilliefors Critical (0.05) Value	0.188
Data not Lognormal at (0.05) Significance Level	
Non-parametric GOF Test Results	
Data do not follow a discernible distribution at (0.05) Level of Significance	
TDS (m-59)	
Raw Statistics	
Number of Valid Observations	21
Number of Distinct Observations	4
Minimum	2500
Maximum	2900
Mean of Raw Data	2724
Standard Deviation of Raw Data	94.37
Khat	856.4
Theta hat	3.181
Kstar	734.1
Theta star	3.71
Mean of Log Transformed Data	7.909
Standard Deviation of Log Transformed Data	0.0352
Normal GOF Test Results	
Correlation Coefficient R	0.891
Shapiro Wilk Test Statistic	0.805
Shapiro Wilk Critical (0.05) Value	0.908
Approximate Shapiro Wilk P Value	4.8045E-4
Lilliefors Test Statistic	0.305
Lilliefors Critical (0.05) Value	0.188
Data not Normal at (0.05) Significance Level	
Gamma GOF Test Results	
Correlation Coefficient R	0.891
A-D Test Statistic	1.915
A-D Critical (0.05) Value	0.74
K-S Test Statistic	0.308

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21					
K-S Critical(0.05) Value	0.189					
Data not Gamma Distributed at (0.05) Significance Level						
Lognormal GOF Test Results						
Correlation Coefficient R	0.885					
Shapiro Wilk Test Statistic	0.795					
Shapiro Wilk Critical (0.05) Value	0.908					
Approximate Shapiro Wilk P Value	3.2153E-4					
Lilliefors Test Statistic	0.313					
Lilliefors Critical (0.05) Value	0.188					
Data not Lognormal at (0.05) Significance Level						
Non-parametric GOF Test Results						
Data do not follow a discernible distribution at (0.05) Level of Significance						
TDS (m-60)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	0	22	21	1	4.55%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	1	2700	2700	2700	2700	N/A
Statistics (Non-Detects Only)	21	2500	4200	2867	2800	323
Statistics (All: NDs treated as DL value)	22	2500	4200	2859	2800	317.2
Statistics (All: NDs treated as DL/2 value)	22	1350	4200	2798	2800	451.6
Statistics (Normal ROS Imputed Data)	22	2483	4200	2849	2800	325.6
Statistics (Gamma ROS Imputed Data)	22	2489	4200	2850	2800	325.3
Statistics (Lognormal ROS Imputed Data)	22	2500	4200	2851	2800	323.6
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	102	87.45	28.11	7.956	0.0966	0.0121
Statistics (NDs = DL)	105.1	90.82	27.2	7.953	0.095	0.0119
Statistics (NDs = DL/2)	34.47	29.8	81.16	7.922	0.185	0.0234
Statistics (Gamma ROS Estimates)	98.17	84.81	29.03	7.95	0.0986	0.0124
Statistics (Lognormal ROS Estimates)	--	--	--	7.95	0.0978	0.0123
Normal GOF Test Results						

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21			
	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.682	0.685	0.75	0.712
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)	
Shapiro-Wilk (Detects Only)	0.499	0.908	Data Not Normal	
Shapiro-Wilk (NDs = DL)	0.505	0.911	Data Not Normal	
Shapiro-Wilk (NDs = DL/2)	0.611	0.911	Data Not Normal	
Shapiro-Wilk (Normal ROS Estimates)	0.541	0.911	Data Not Normal	
Lilliefors (Detects Only)	0.364	0.188	Data Not Normal	
Lilliefors (NDs = DL)	0.358	0.184	Data Not Normal	
Lilliefors (NDs = DL/2)	0.32	0.184	Data Not Normal	
Lilliefors (Normal ROS Estimates)	0.347	0.184	Data Not Normal	
Gamma GOF Test Results				
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.707	0.709	0.755	0.734
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)	
Anderson-Darling (Detects Only)	3.586	0.74		
Kolmogorov-Smirnov (Detects Only)	0.345	0.189	Data Not Gamma Distributed	
Anderson-Darling (NDs = DL)	3.578	0.741		
Kolmogorov-Smirnov (NDs = DL)	0.338	0.185	Data Not Gamma Distributed	
Anderson-Darling (NDs = DL/2)	3.989	0.742		
Kolmogorov-Smirnov (NDs = DL/2)	0.343	0.185	Data Not Gamma Distributed	
Anderson-Darling (Gamma ROS Estimates)	3.241	0.741		
Kolmogorov-Smirnov (Gamma ROS Est.)	0.327	0.185	Data Not Gamma Distributed	
Lognormal GOF Test Results				
	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.725	0.73	0.714	0.753
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)	
Shapiro-Wilk (Detects Only)	0.561	0.908	Data Not Lognormal	
Shapiro-Wilk (NDs = DL)	0.569	0.911	Data Not Lognormal	
Shapiro-Wilk (NDs = DL/2)	0.556	0.911	Data Not Lognormal	
Shapiro-Wilk (Lognormal ROS Estimates)	0.6	0.911	Data Not Lognormal	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations		21	
Lilliefors (Detects Only)	0.337	0.188	Data Not Lognormal
Lilliefors (NDs = DL)	0.33	0.184	Data Not Lognormal
Lilliefors (NDs = DL/2)	0.351	0.184	Data Not Lognormal
Lilliefors (Lognormal ROS Estimates)	0.32	0.184	Data Not Lognormal
Note: Substitution methods such as DL or DL/2 are not recommended.			
TDS (m-61)			
Raw Statistics			
Number of Valid Observations		21	
Number of Missing Observations		1	
Number of Distinct Observations		5	
Minimum		2600	
Maximum		3000	
Mean of Raw Data		2814	
Standard Deviation of Raw Data		110.8	
Khat		678.8	
Theta hat		4.146	
Kstar		581.8	
Theta star		4.837	
Mean of Log Transformed Data		7.942	
Standard Deviation of Log Transformed Data		0.0393	
Normal GOF Test Results			
Correlation Coefficient R		0.96	
Shapiro Wilk Test Statistic		0.917	
Shapiro Wilk Critical (0.05) Value		0.908	
Approximate Shapiro Wilk P Value		0.0715	
Lilliefors Test Statistic		0.218	
Lilliefors Critical (0.05) Value		0.188	
Data appear Approximate Normal at (0.05) Significance Level			
Gamma GOF Test Results			
Correlation Coefficient R		0.96	
A-D Test Statistic		0.832	
A-D Critical (0.05) Value		0.74	

Appendix B
Goodness of Fit Statistics

Number of Valid Observations	21						
K-S Test Statistic	0.214						
K-S Critical(0.05) Value	0.189						
Data not Gamma Distributed at (0.05) Significance Level							
Lognormal GOF Test Results							
Correlation Coefficient R	0.961						
Shapiro Wilk Test Statistic	0.919						
Shapiro Wilk Critical (0.05) Value	0.908						
Approximate Shapiro Wilk P Value	0.0792						
Lilliefors Test Statistic	0.211						
Lilliefors Critical (0.05) Value	0.188						
Data appear Approximate_Lognormal at (0.05) Significance Level							

Appendix B
Outlier Statistics

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.19/22/2021 10:46:43 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF

Dixon's Outlier Test for Boron (m-59)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.53 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 0.53 is an outlier.
For 5% significance level, 0.53 is not an outlier.
For 1% significance level, 0.53 is not an outlier.

2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Dixon's Outlier Test for Boron (m-60)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.54 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.44
Test Statistic: 0.200

For 10% significance level, 0.54 is not an outlier.
For 5% significance level, 0.54 is not an outlier.
For 1% significance level, 0.54 is not an outlier.

2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.200

For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Dixon's Outlier Test for Boron (m-61)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.52 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.250

For 10% significance level, 0.52 is not an outlier.
For 5% significance level, 0.52 is not an outlier.
For 1% significance level, 0.52 is not an outlier.

2. Observation Value 0.48 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.48 is not an outlier.
For 5% significance level, 0.48 is not an outlier.
For 1% significance level, 0.48 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44

Dixon's Outlier Test for Calcium (m-59)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 93 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.375

For 10% significance level, 93 is not an outlier.
For 5% significance level, 93 is not an outlier.
For 1% significance level, 93 is not an outlier.

2. Observation Value 84 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.167

For 10% significance level, 84 is not an outlier.
For 5% significance level, 84 is not an outlier.
For 1% significance level, 84 is not an outlier.

Dixon's Outlier Test for Calcium (m-60)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 92 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.250

For 10% significance level, 92 is not an outlier.
For 5% significance level, 92 is not an outlier.
For 1% significance level, 92 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44

2. Observation Value 82 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.250

For 10% significance level, 82 is not an outlier.
For 5% significance level, 82 is not an outlier.
For 1% significance level, 82 is not an outlier.

Dixon's Outlier Test for Calcium (m-61)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 94 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.143

For 10% significance level, 94 is not an outlier.
For 5% significance level, 94 is not an outlier.
For 1% significance level, 94 is not an outlier.

2. Observation Value 86 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.143

For 10% significance level, 86 is not an outlier.
For 5% significance level, 86 is not an outlier.
For 1% significance level, 86 is not an outlier.

Dixon's Outlier Test for pH (m-59)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

Appendix B
Outlier Statistics

5% critical value: 0.44

1. Observation Value 8.1 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 8.1 is an outlier.
For 5% significance level, 8.1 is an outlier.
For 1% significance level, 8.1 is not an outlier.

2. Observation Value 7.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 7.5 is not an outlier.
For 5% significance level, 7.5 is not an outlier.
For 1% significance level, 7.5 is not an outlier.

Dixon's Outlier Test for pH (m-60)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 8 is not an outlier.
For 5% significance level, 8 is not an outlier.
For 1% significance level, 8 is not an outlier.

2. Observation Value 7.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 7.5 is not an outlier.
For 5% significance level, 7.5 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44
For 1% significance level, 7.5 is not an outlier.

Dixon's Outlier Test for pH (m-61)

Number of Observations = 20
10% critical value: 0.401
5% critical value: 0.45
1% critical value: 0.535

1. Observation Value 8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 8 is not an outlier.
For 5% significance level, 8 is not an outlier.
For 1% significance level, 8 is not an outlier.

2. Observation Value 7.22 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.483

For 10% significance level, 7.22 is an outlier.
For 5% significance level, 7.22 is an outlier.
For 1% significance level, 7.22 is not an outlier.

Dixon's Outlier Test for Sulfate (m-59)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 370 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.333

For 10% significance level, 370 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44
For 5% significance level, 370 is not an outlier.
For 1% significance level, 370 is not an outlier.

2. Observation Value 330 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.333

For 10% significance level, 330 is not an outlier.
For 5% significance level, 330 is not an outlier.
For 1% significance level, 330 is not an outlier.

Dixon's Outlier Test for Sulfate (m-60)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 440 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.800

For 10% significance level, 440 is an outlier.
For 5% significance level, 440 is an outlier.
For 1% significance level, 440 is an outlier.

2. Observation Value 340 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 340 is not an outlier.
For 5% significance level, 340 is not an outlier.
For 1% significance level, 340 is not an outlier.

Dixon's Outlier Test for Sulfate (m-61)

Number of Observations = 21

Appendix B
Outlier Statistics

5% critical value: 0.44
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 420 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 420 is an outlier.
For 5% significance level, 420 is an outlier.
For 1% significance level, 420 is not an outlier.

2. Observation Value 340 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 340 is not an outlier.
For 5% significance level, 340 is not an outlier.
For 1% significance level, 340 is not an outlier.

Dixon's Outlier Test for TDS (m-59)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 2900 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.500

For 10% significance level, 2900 is an outlier.
For 5% significance level, 2900 is an outlier.
For 1% significance level, 2900 is not an outlier.

2. Observation Value 2500 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.667

Appendix B
Outlier Statistics

5% critical value: 0.44

For 10% significance level, 2500 is an outlier.
For 5% significance level, 2500 is an outlier.
For 1% significance level, 2500 is an outlier.

Dixon's Outlier Test for TDS (m-60)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 4200 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.867

For 10% significance level, 4200 is an outlier.
For 5% significance level, 4200 is an outlier.
For 1% significance level, 4200 is an outlier.

2. Observation Value 2500 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.500

For 10% significance level, 2500 is an outlier.
For 5% significance level, 2500 is an outlier.
For 1% significance level, 2500 is not an outlier.

Dixon's Outlier Test for TDS (m-61)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 3000 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.44							
Test Statistic: 0.000							
For 10% significance level, 3000 is not an outlier.							
For 5% significance level, 3000 is not an outlier.							
For 1% significance level, 3000 is not an outlier.							
2. Observation Value 2600 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.250							
For 10% significance level, 2600 is not an outlier.							
For 5% significance level, 2600 is not an outlier.							
For 1% significance level, 2600 is not an outlier.							

Appendix B
Summary Statistics

	General Statistics on Uncensored Data
Date/Time of Computation	ProUCL 5.19/20/2021 9:06:15 PM
User Selected Options	
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF

From File: Cholla_BAM_ProUCL_Jul2021.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Boron (m-59)	21	0	21	0	0.00%	N/A	N/A	0.495	1.7619E-4	0.0133	0.0268
Boron (m-60)	21	1	21	0	0.00%	N/A	N/A	0.509	2.9286E-4	0.0171	0.0336
Boron (m-61)	21	1	21	0	0.00%	N/A	N/A	0.498	1.4905E-4	0.0122	0.0245
Calcium (m-59)	21	0	21	0	0.00%	N/A	N/A	87.48	6.162	2.482	0.0284
Calcium (m-60)	21	1	21	0	0.00%	N/A	N/A	87.1	7.69	2.773	0.0318
Calcium (m-61)	21	1	21	0	0.00%	N/A	N/A	90	5	2.236	0.0248
Chloride (m-59)	21	0	21	0	0.00%	N/A	N/A	1329	6143	78.38	0.059
Chloride (m-60)	21	1	21	0	0.00%	N/A	N/A	1376	4905	70.03	0.0509
Chloride (m-61)	21	1	21	0	0.00%	N/A	N/A	1386	12286	110.8	0.08
Fluoride (m-59)	21	0	21	0	0.00%	N/A	N/A	1.405	0.0115	0.107	0.0763
Fluoride (m-60)	21	1	21	0	0.00%	N/A	N/A	1.448	0.00662	0.0814	0.0562
Fluoride (m-61)	22	0	22	0	0.00%	N/A	N/A	1.432	0.00608	0.078	0.0545
pH (m-59)	20	1	20	0	0.00%	N/A	N/A	7.68	0.0236	0.154	0.02
pH (m-60)	20	2	20	0	0.00%	N/A	N/A	7.685	0.0169	0.13	0.0169
pH (m-61)	20	2	20	0	0.00%	N/A	N/A	7.666	0.031	0.176	0.023
Sulfate (m-59)	21	0	21	0	0.00%	N/A	N/A	347.6	99.05	9.952	0.0286
Sulfate (m-60)	21	1	21	0	0.00%	N/A	N/A	356.7	423.3	20.58	0.0577
Sulfate (m-61)	21	1	21	0	0.00%	N/A	N/A	359.5	364.8	19.1	0.0531
TDS (m-59)	21	0	21	0	0.00%	N/A	N/A	2724	8905	94.37	0.0346
TDS (m-60)	22	0	21	1	4.55%	2700	2700	2852	99313	315.1	0.11
TDS (m-61)	21	1	21	0	0.00%	N/A	N/A	2814	12286	110.8	0.0394

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Boron (m-59)	21	0	0.48	0.53	0.495	0.49	1.7619E-4	0.0133	0.0148	1.007	0.0268
Boron (m-60)	21	1	0.48	0.54	0.509	0.51	2.9286E-4	0.0171	0.0148	0.112	0.0336

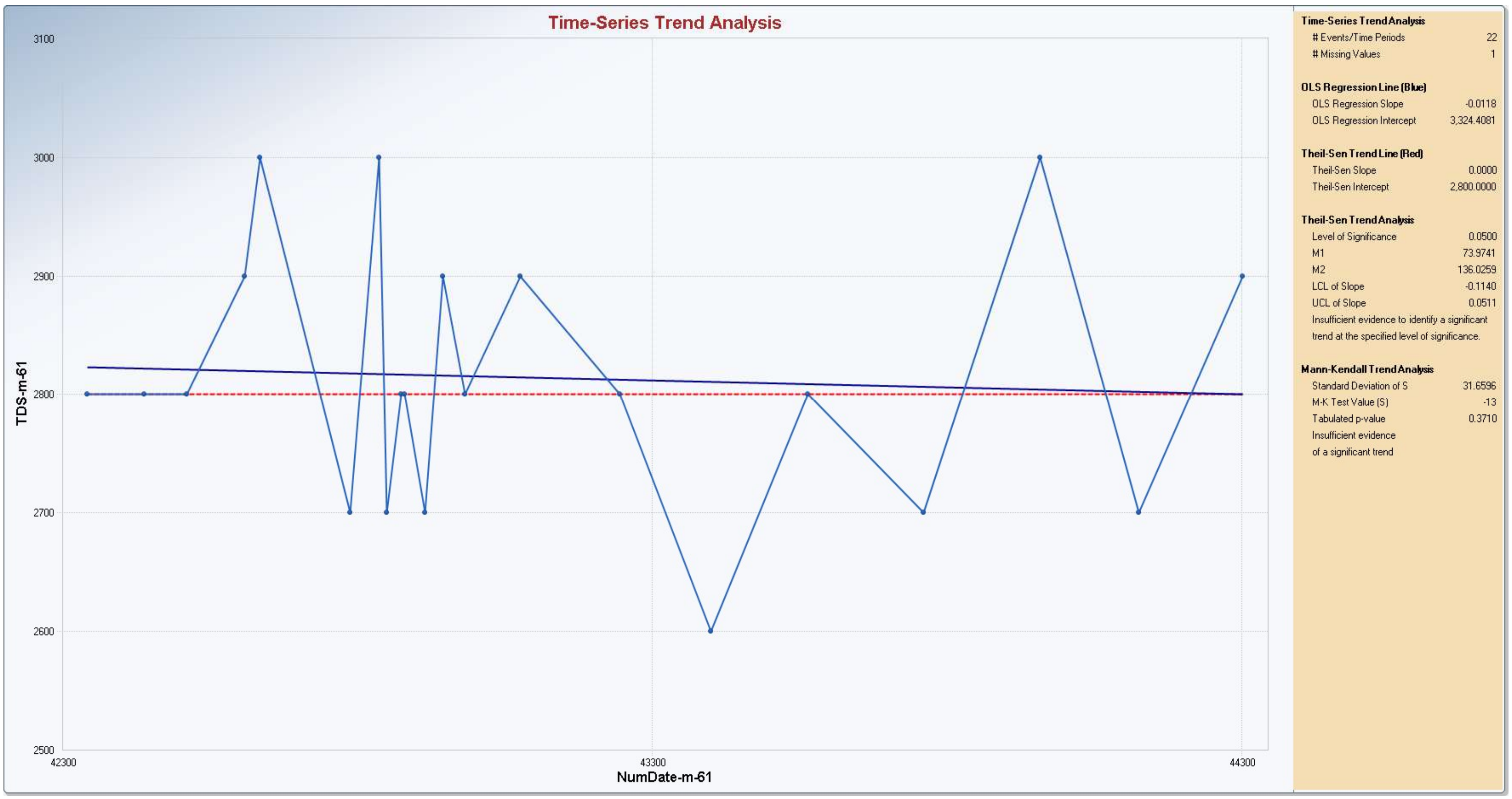
Appendix B
Summary Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
Boron (m-61)	21	1	0.48	0.52	0.498	0.5	1.4905E-4	0.0122	0.0148	0.139	0.0245
Calcium (m-59)	21	0	84	93	87.48	87	6.162	2.482	2.965	0.584	0.0284
Calcium (m-60)	21	1	82	92	87.1	88	7.69	2.773	2.965	-0.0621	0.0318
Calcium (m-61)	21	1	86	94	90	90	5	2.236	2.965	-0.0297	0.0248
Chloride (m-59)	21	0	1200	1400	1329	1300	6143	78.38	148.3	-0.576	0.059
Chloride (m-60)	21	1	1200	1500	1376	1400	4905	70.03	0	-0.597	0.0509
Chloride (m-61)	21	1	1100	1700	1386	1400	12286	110.8	0	0.308	0.08
Fluoride (m-59)	21	0	1.3	1.8	1.405	1.4	0.0115	0.107	0	2.595	0.0763
Fluoride (m-60)	21	1	1.3	1.7	1.448	1.4	0.00662	0.0814	0	1.316	0.0562
Fluoride (m-61)	22	0	1.3	1.6	1.432	1.4	0.00608	0.078	0.148	0.011	0.0545
pH (m-59)	20	1	7.5	8.1	7.68	7.65	0.0236	0.154	0.148	1.082	0.02
pH (m-60)	20	2	7.5	8	7.685	7.7	0.0169	0.13	0.148	0.464	0.0169
pH (m-61)	20	2	7.22	8	7.666	7.7	0.031	0.176	0.148	-0.484	0.023
Sulfate (m-59)	21	0	330	370	347.6	350	99.05	9.952	14.83	0.192	0.0286
Sulfate (m-60)	21	1	340	440	356.7	350	423.3	20.58	14.83	3.581	0.0577
Sulfate (m-61)	21	1	340	420	359.5	360	364.8	19.1	14.83	1.788	0.0531
TDS (m-59)	21	0	2500	2900	2724	2700	8905	94.37	0	-0.921	0.0346
TDS (m-60)	21	0	2500	4200	2867	2800	104333	323	0	3.766	0.113
TDS (m-61)	21	1	2600	3000	2814	2800	12286	110.8	148.3	0.179	0.0394
Percentiles using all Detects (Ds) and Non-Detects (NDs)											
Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Boron (m-59)	21	0	0.48	0.48	0.49	0.49	0.5	0.5	0.51	0.52	0.528
Boron (m-60)	21	1	0.49	0.5	0.5	0.51	0.52	0.53	0.53	0.53	0.538
Boron (m-61)	21	1	0.48	0.49	0.49	0.5	0.5	0.51	0.51	0.52	0.52
Calcium (m-59)	21	0	85	85	86	87	89	89	90	92	92.8
Calcium (m-60)	21	1	84	85	85	88	89	90	90	91	91.8
Calcium (m-61)	21	1	87	88	88	90	92	92	93	93	93.8
Chloride (m-59)	21	0	1200	1300	1300	1300	1400	1400	1400	1400	1400
Chloride (m-60)	21	1	1300	1300	1300	1400	1400	1400	1400	1500	1500
Chloride (m-61)	21	1	1300	1300	1300	1400	1400	1400	1500	1500	1660
Fluoride (m-59)	21	0	1.3	1.3	1.4	1.4	1.4	1.4	1.5	1.5	1.74
Fluoride (m-60)	21	1	1.4	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.66
Fluoride (m-61)	22	0	1.31	1.4	1.4	1.4	1.5	1.5	1.5	1.5	1.579
pH (m-59)	20	1	7.5	7.562	7.593	7.65	7.8	7.8	7.81	7.91	8.062
pH (m-60)	20	2	7.5	7.592	7.6	7.7	7.8	7.8	7.803	7.839	7.968

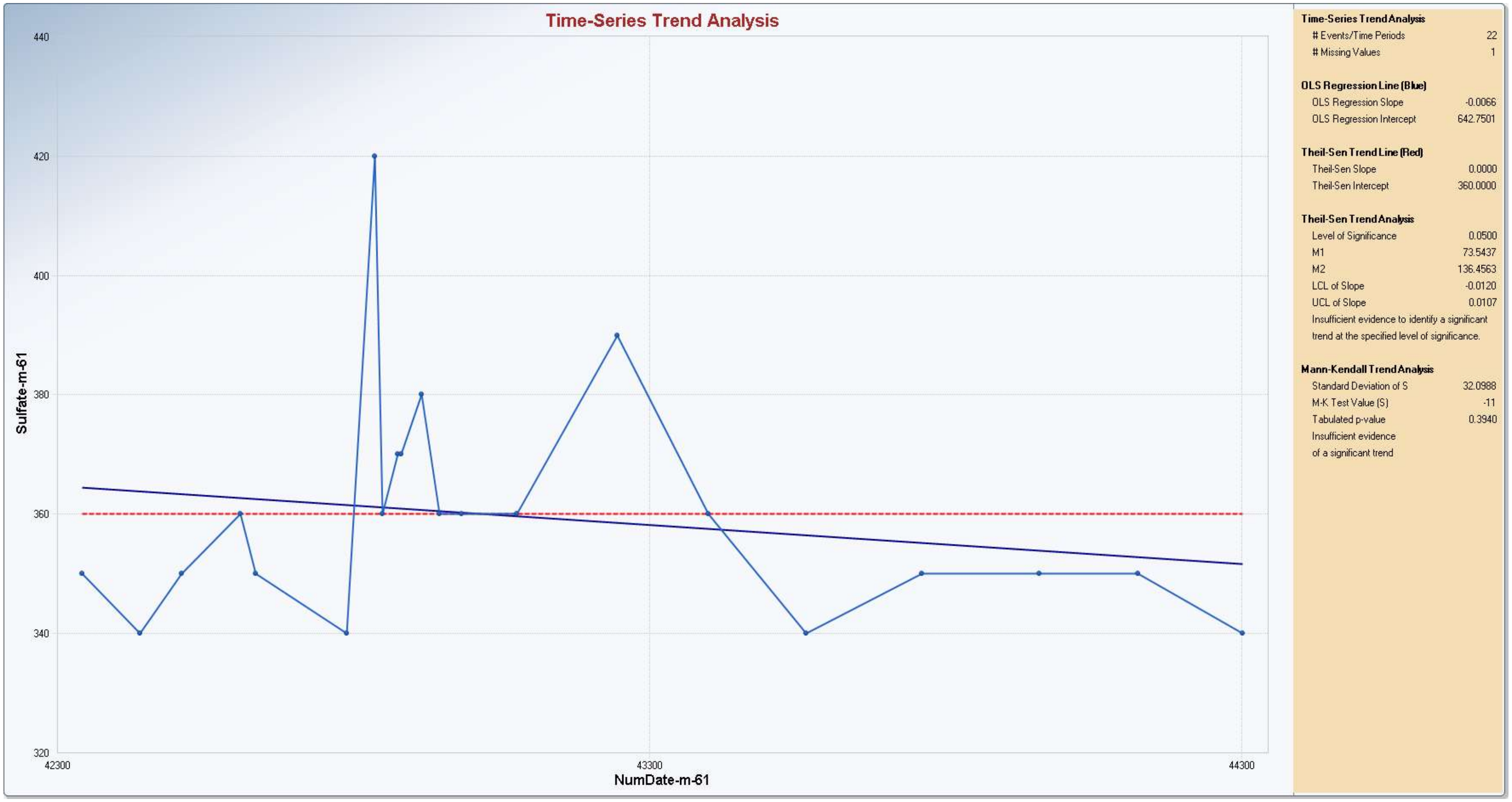
Appendix B
Summary Statistics

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method											
pH (m-61)	20	2	7.5	7.5	7.568	7.7	7.8	7.8	7.81	7.905	7.981
Sulfate (m-59)	21	0	340	340	340	350	350	350	360	360	368
Sulfate (m-60)	21	1	340	350	350	350	360	360	360	370	426
Sulfate (m-61)	21	1	340	350	350	360	360	370	380	390	414
TDS (m-59)	21	0	2700	2700	2700	2700	2800	2800	2800	2800	2880
TDS (m-60)	22	0	2700	2800	2800	2800	2875	2900	2900	2995	3948
TDS (m-61)	21	1	2700	2700	2700	2800	2900	2900	3000	3000	3000

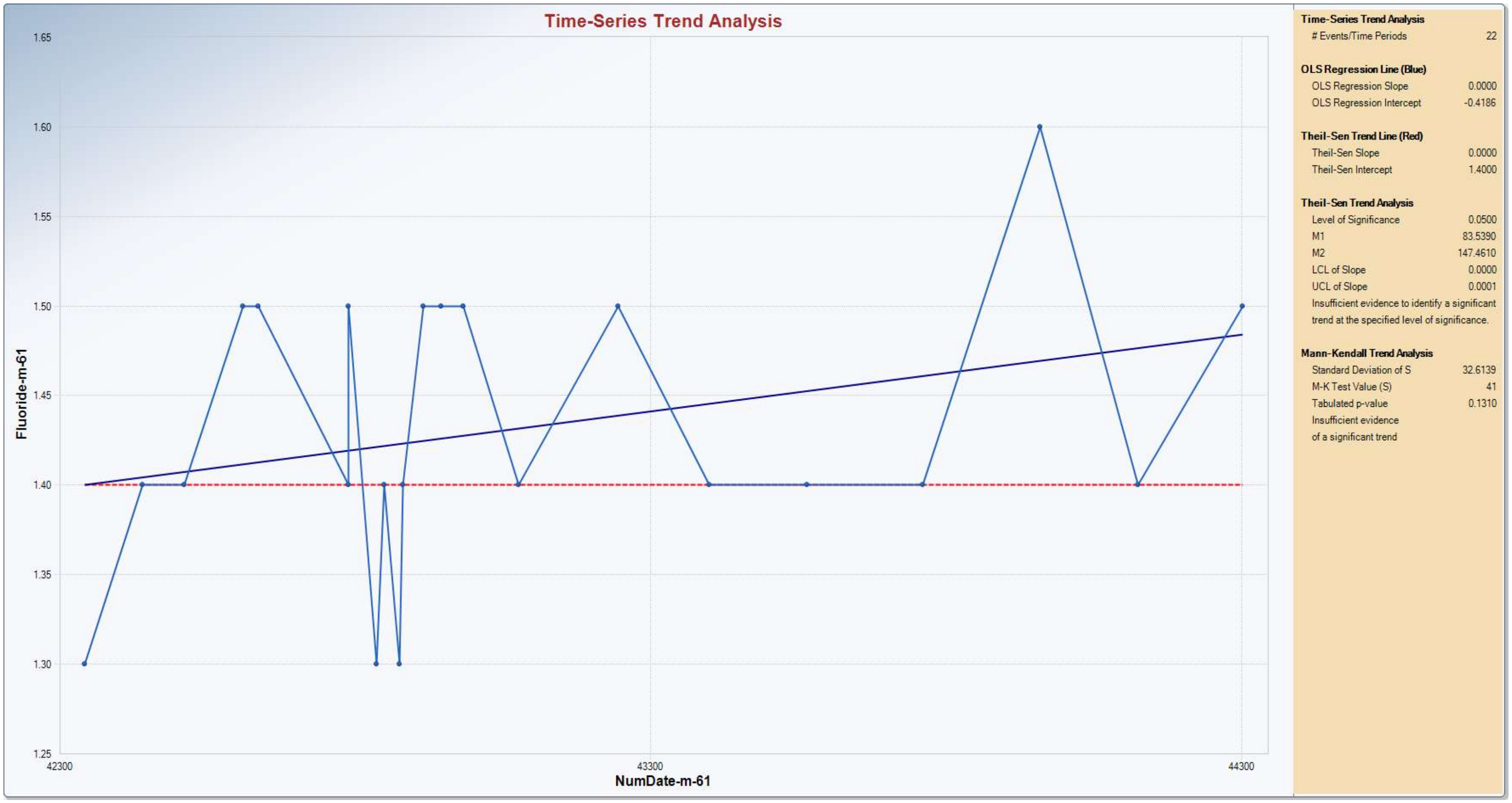
Appendix B
Time Series Plots



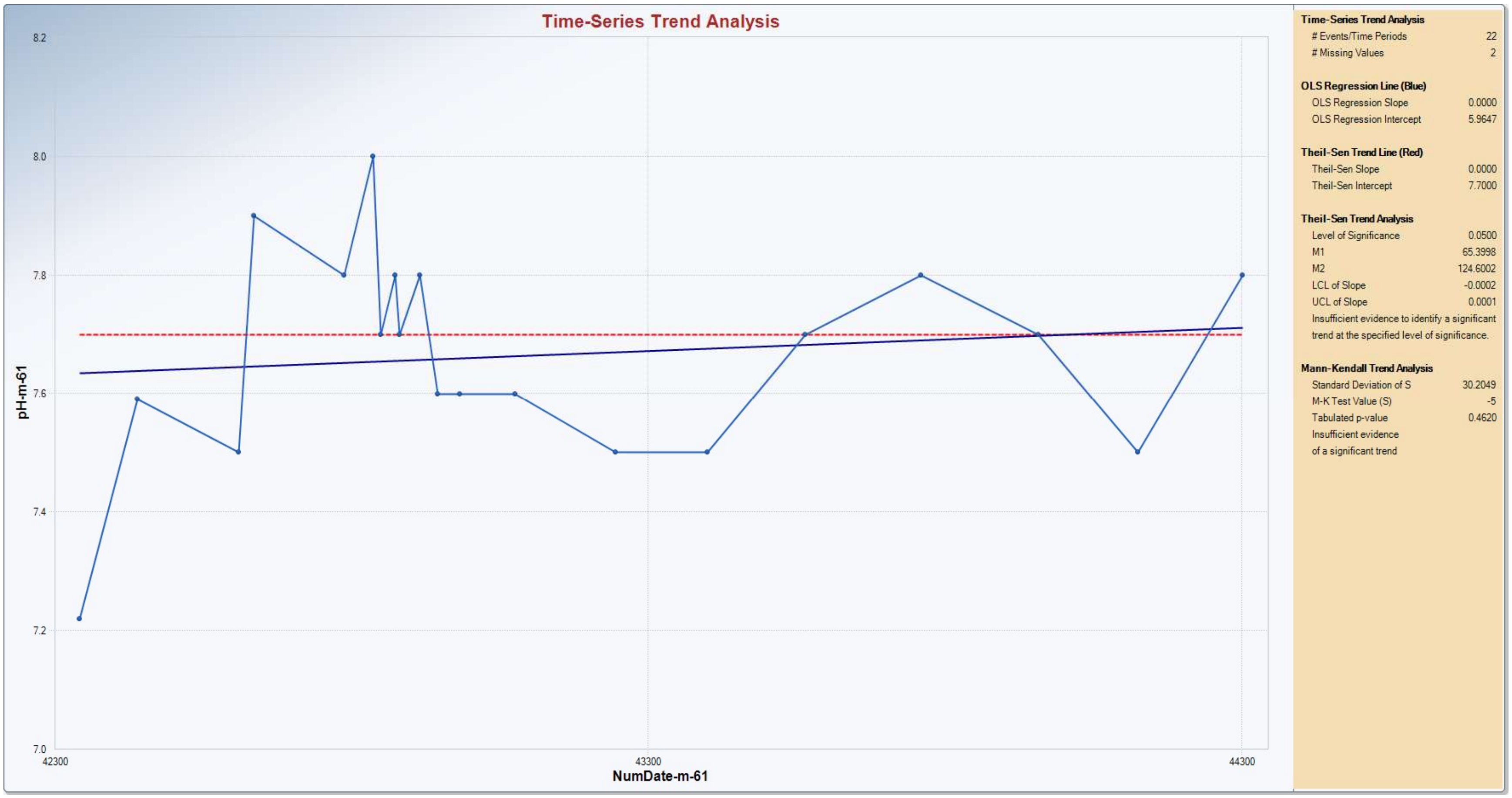
Appendix B
Time Series Plots



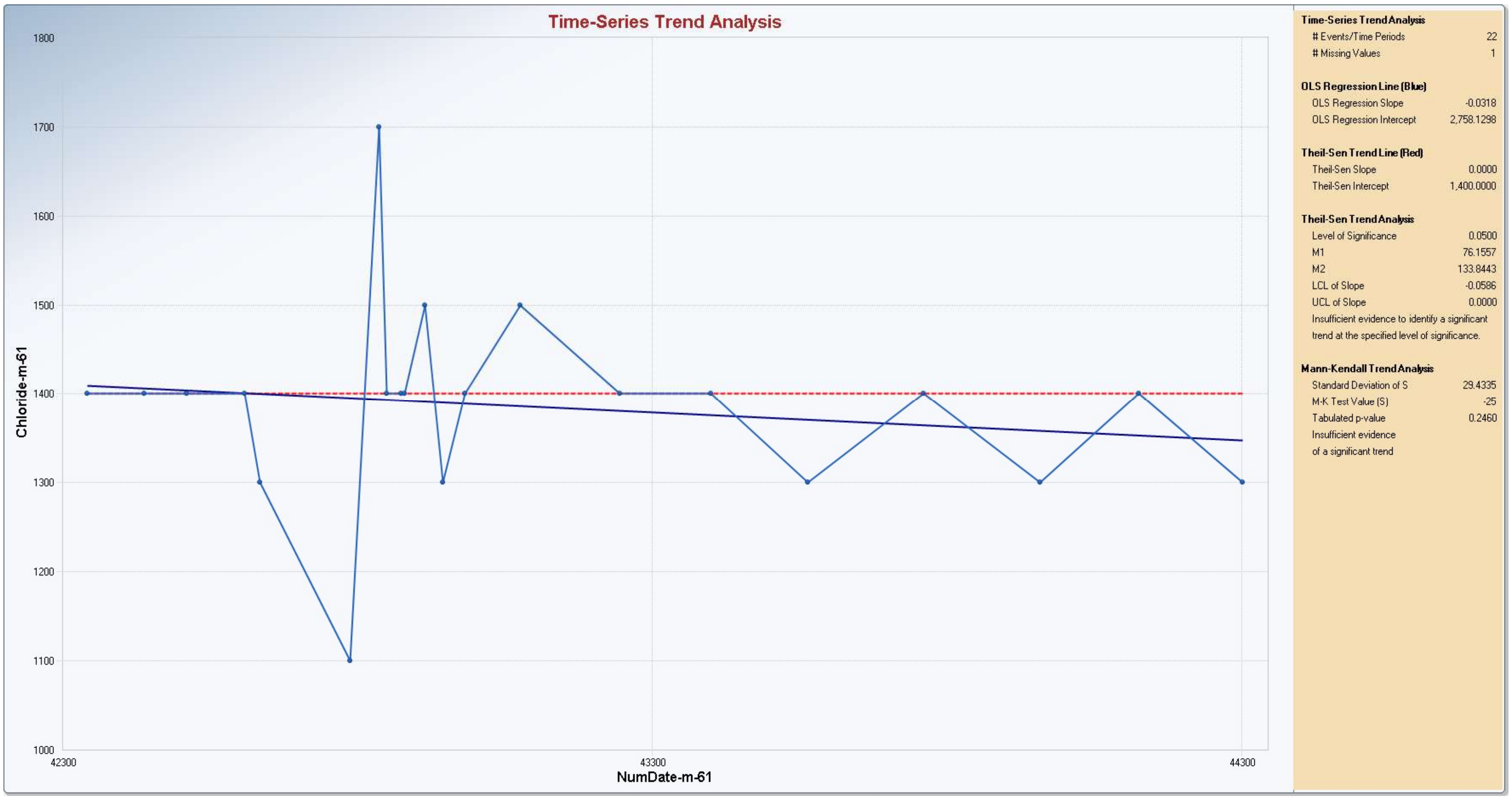
Appendix B
Time Series Plots



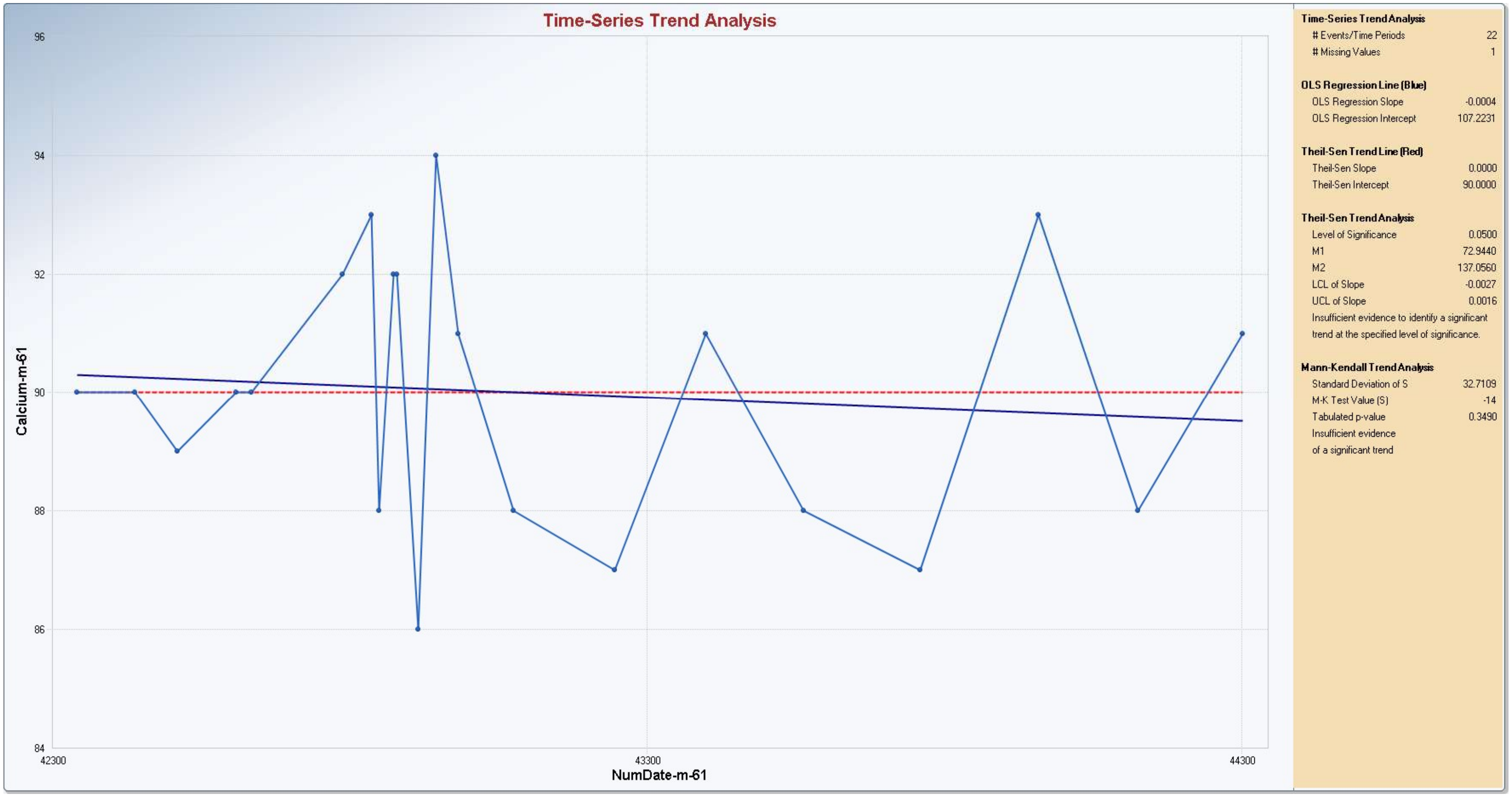
Appendix B
Time Series Plots



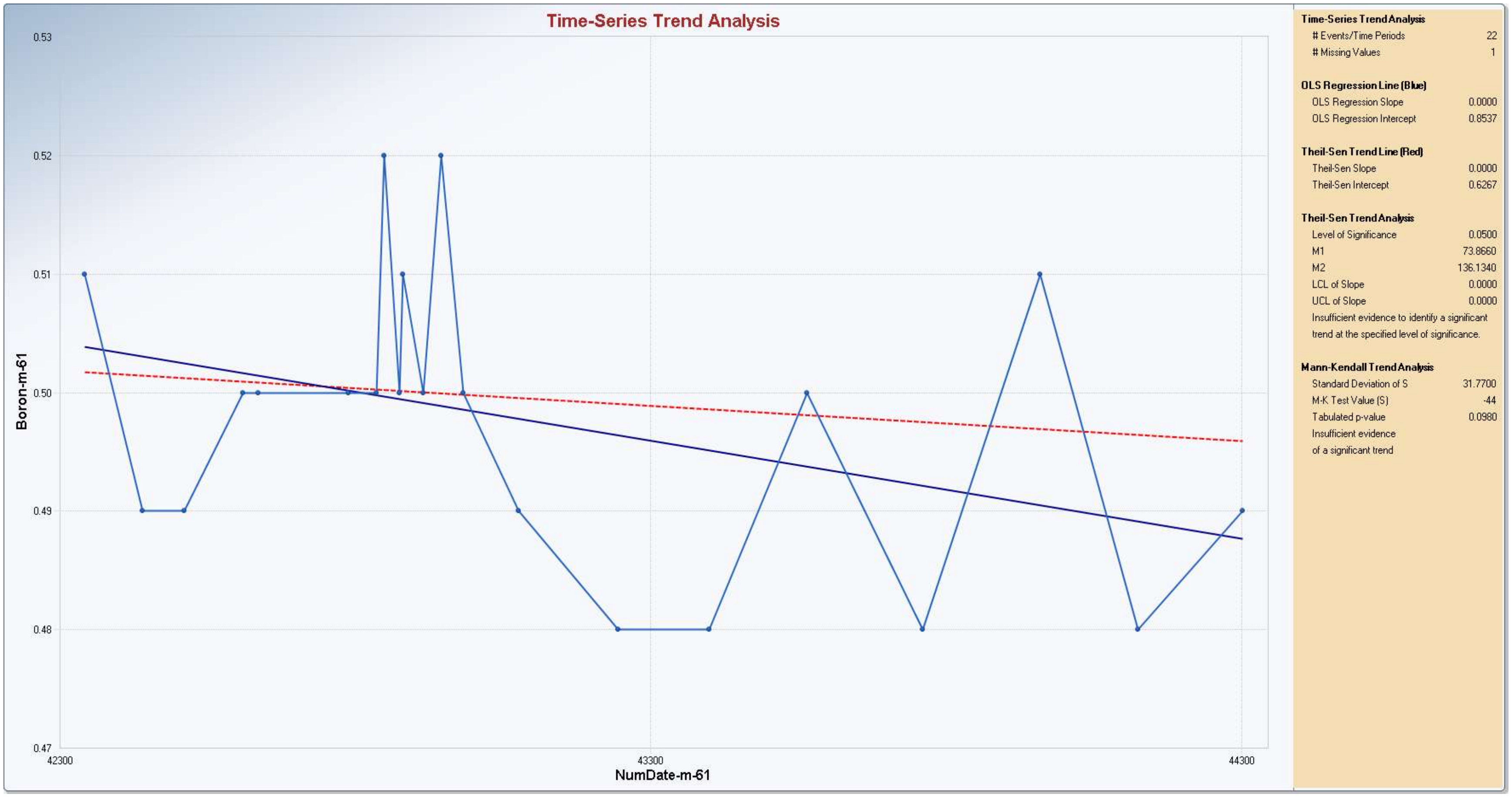
Appendix B
Time Series Plots



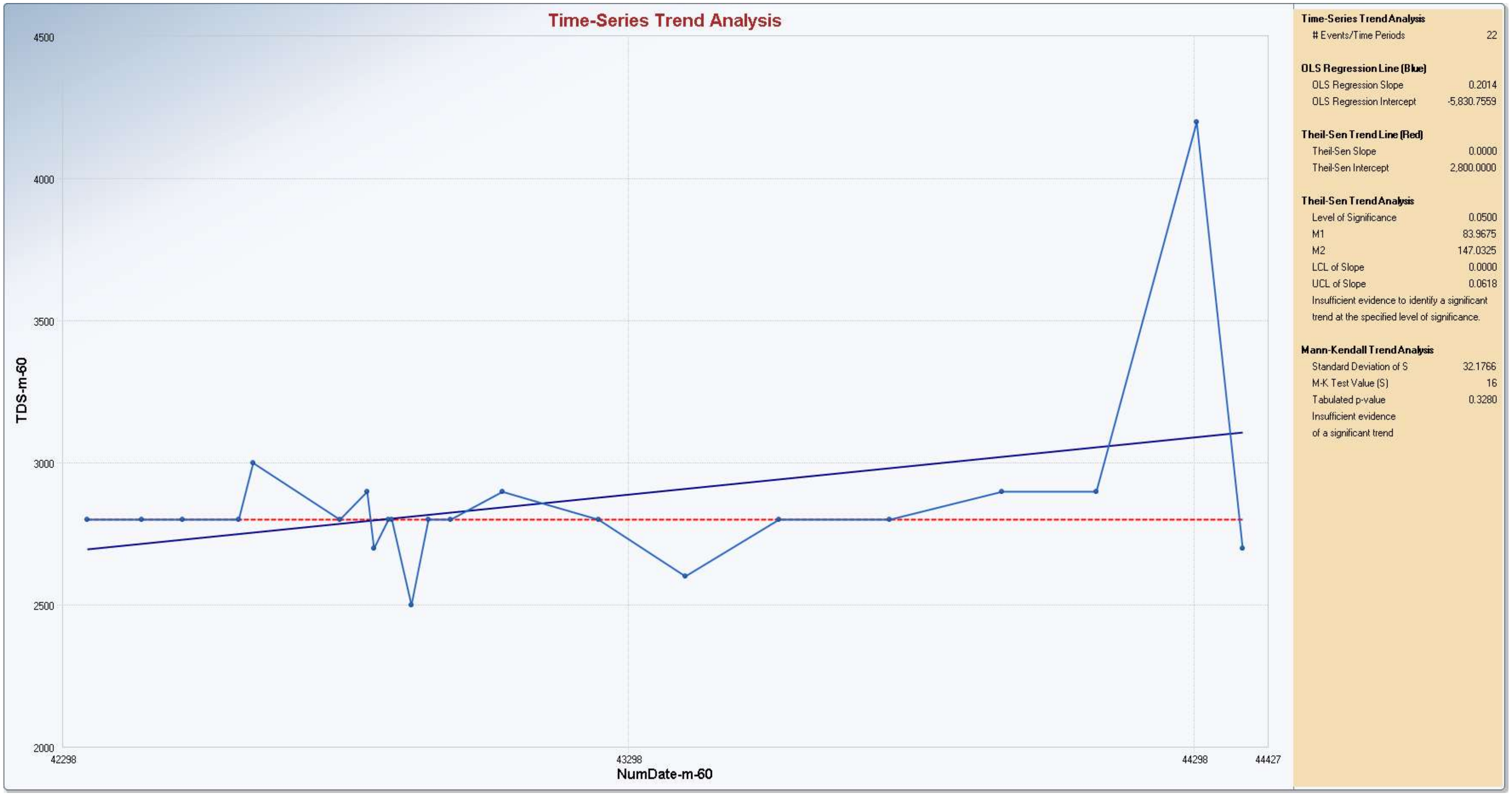
Appendix B
Time Series Plots



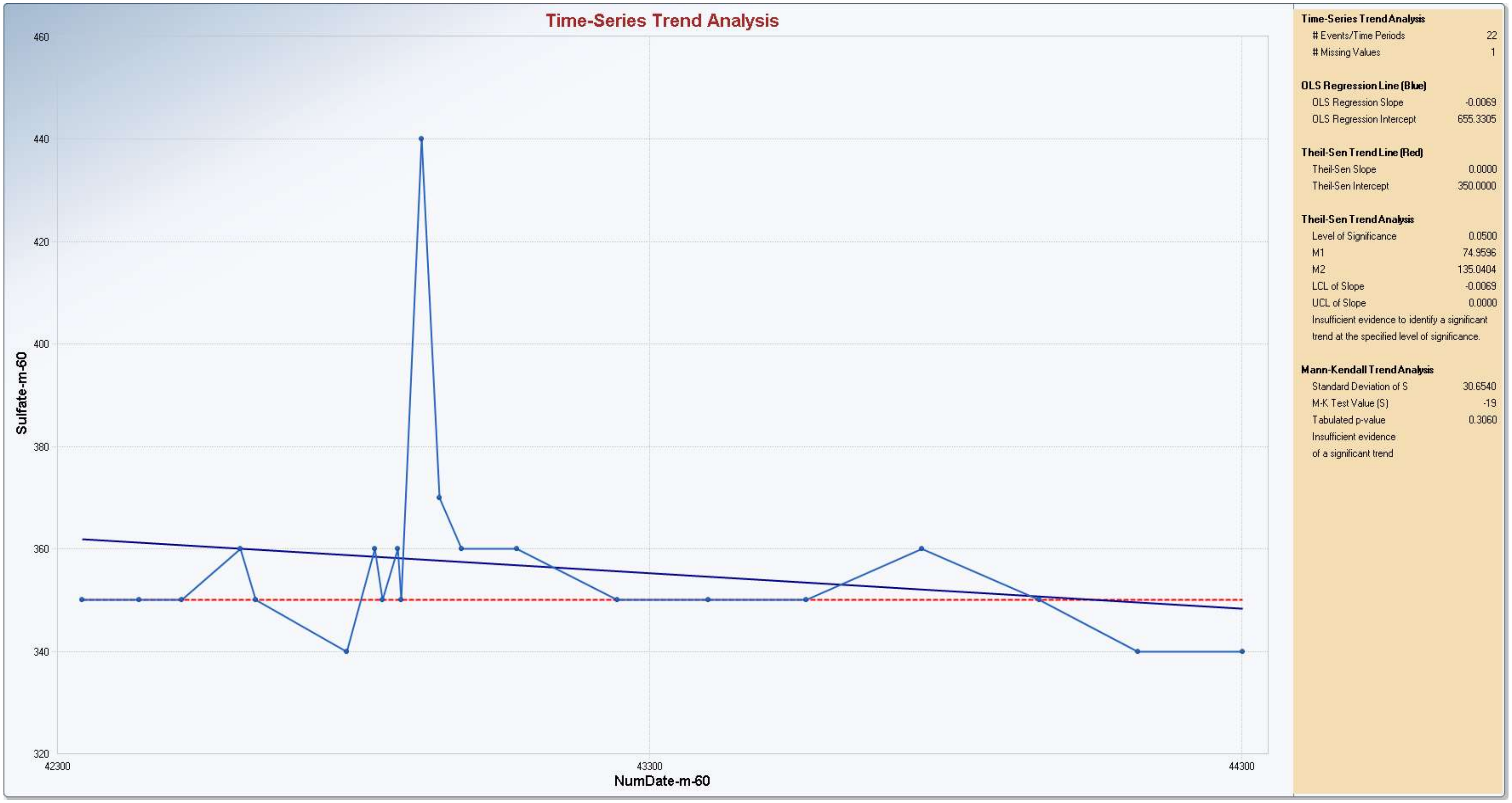
Appendix B
Time Series Plots



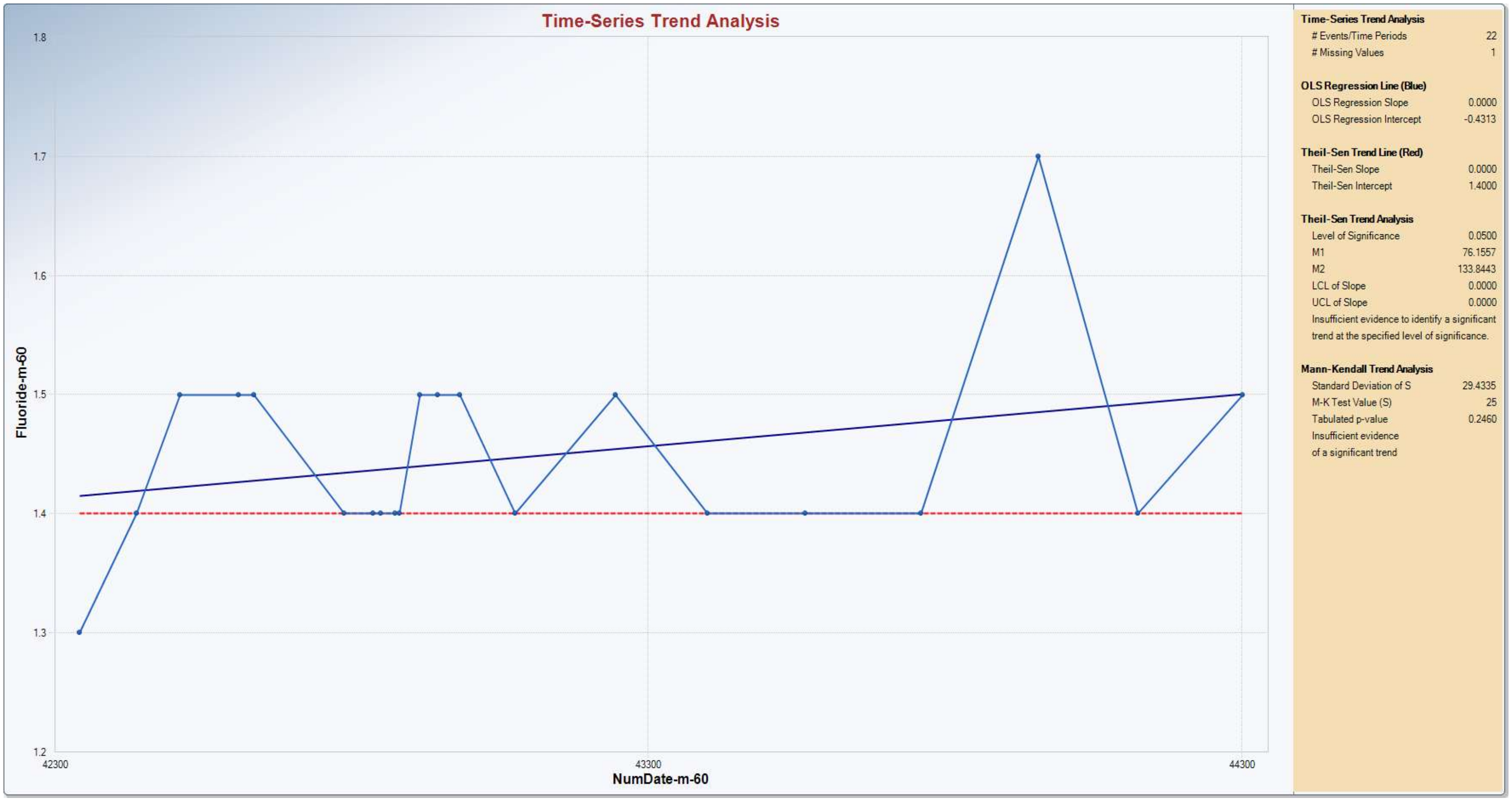
Appendix B
Time Series Plots



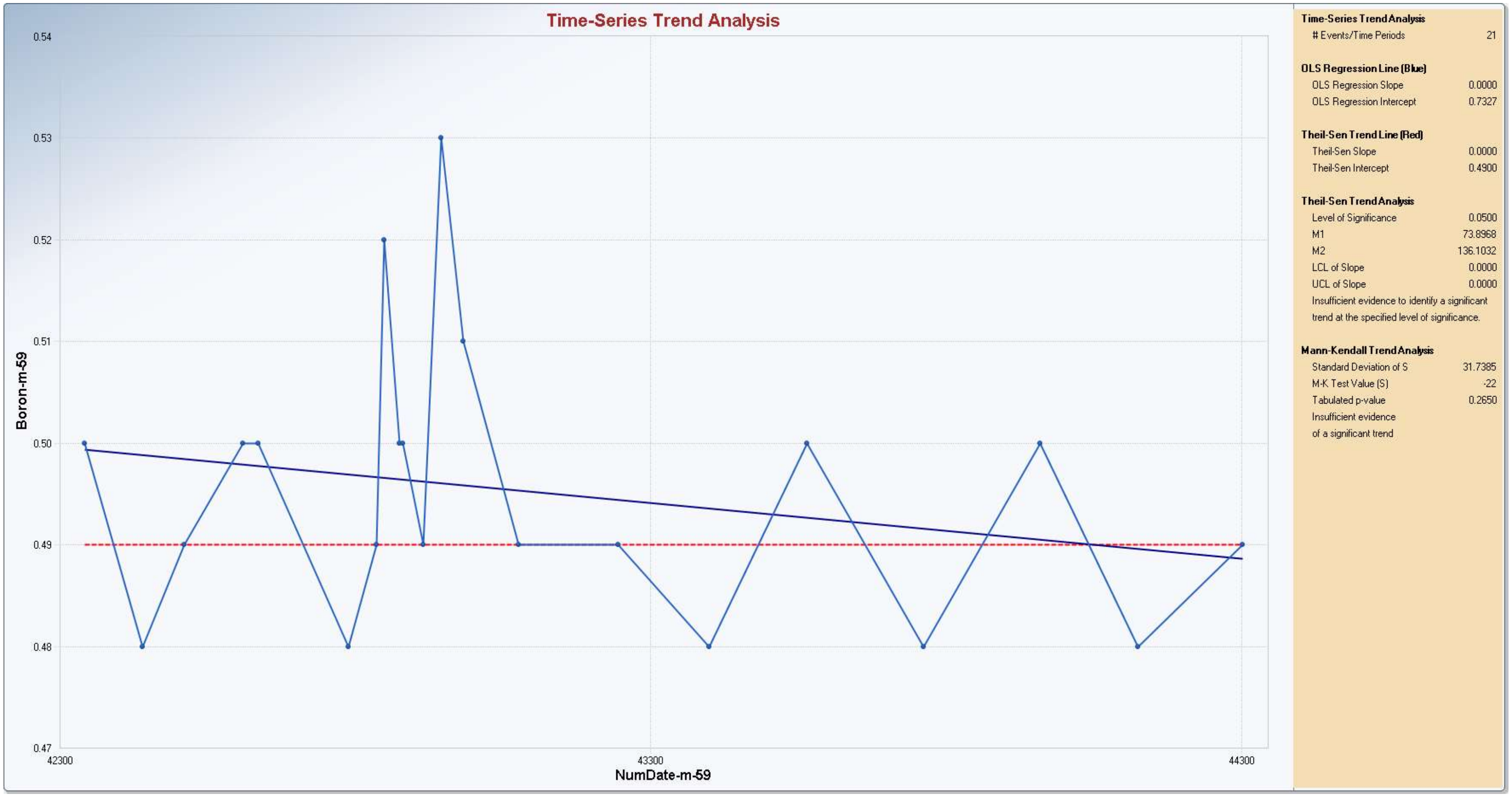
Appendix B
Time Series Plots



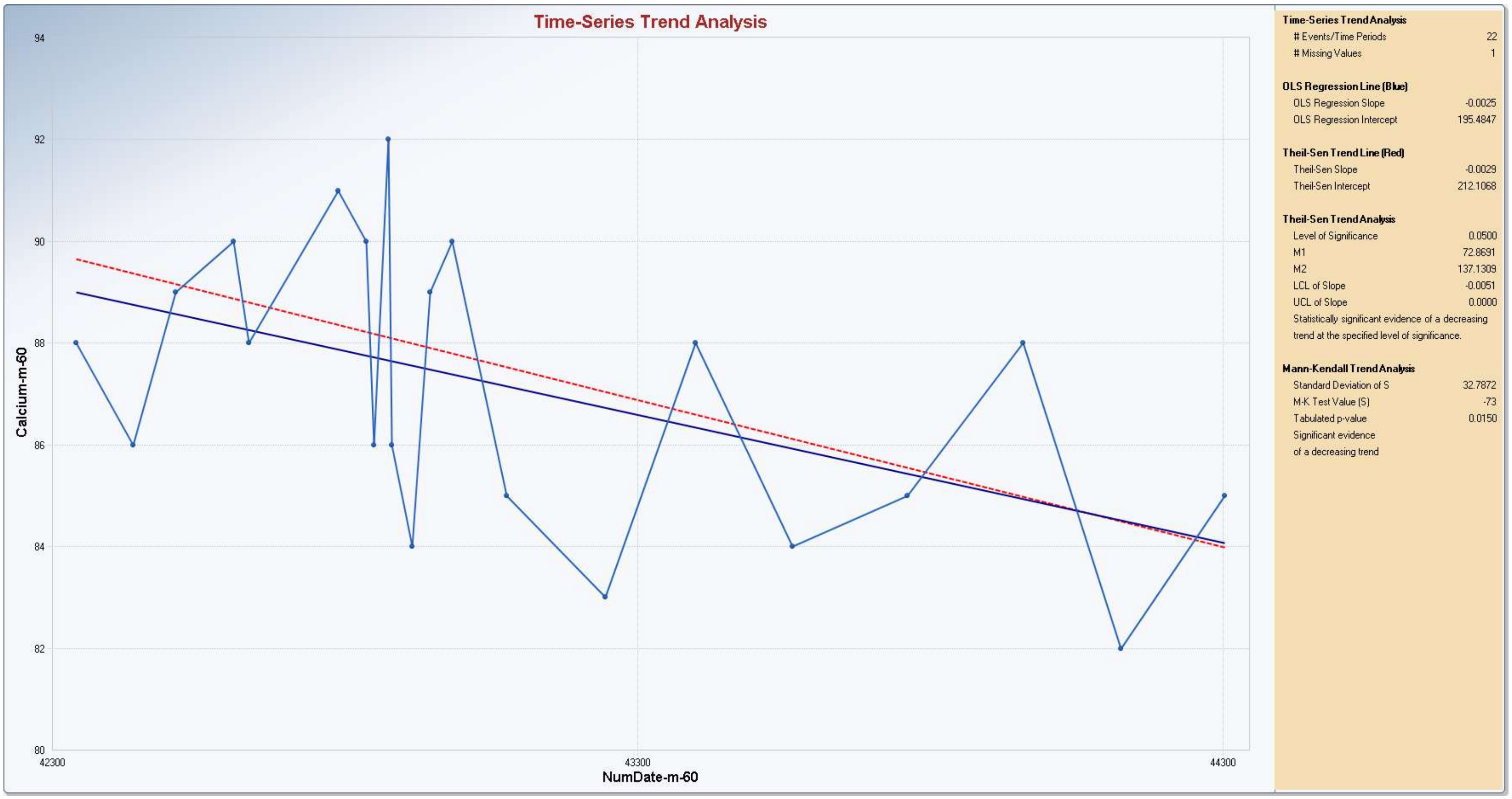
Appendix B
Time Series Plots



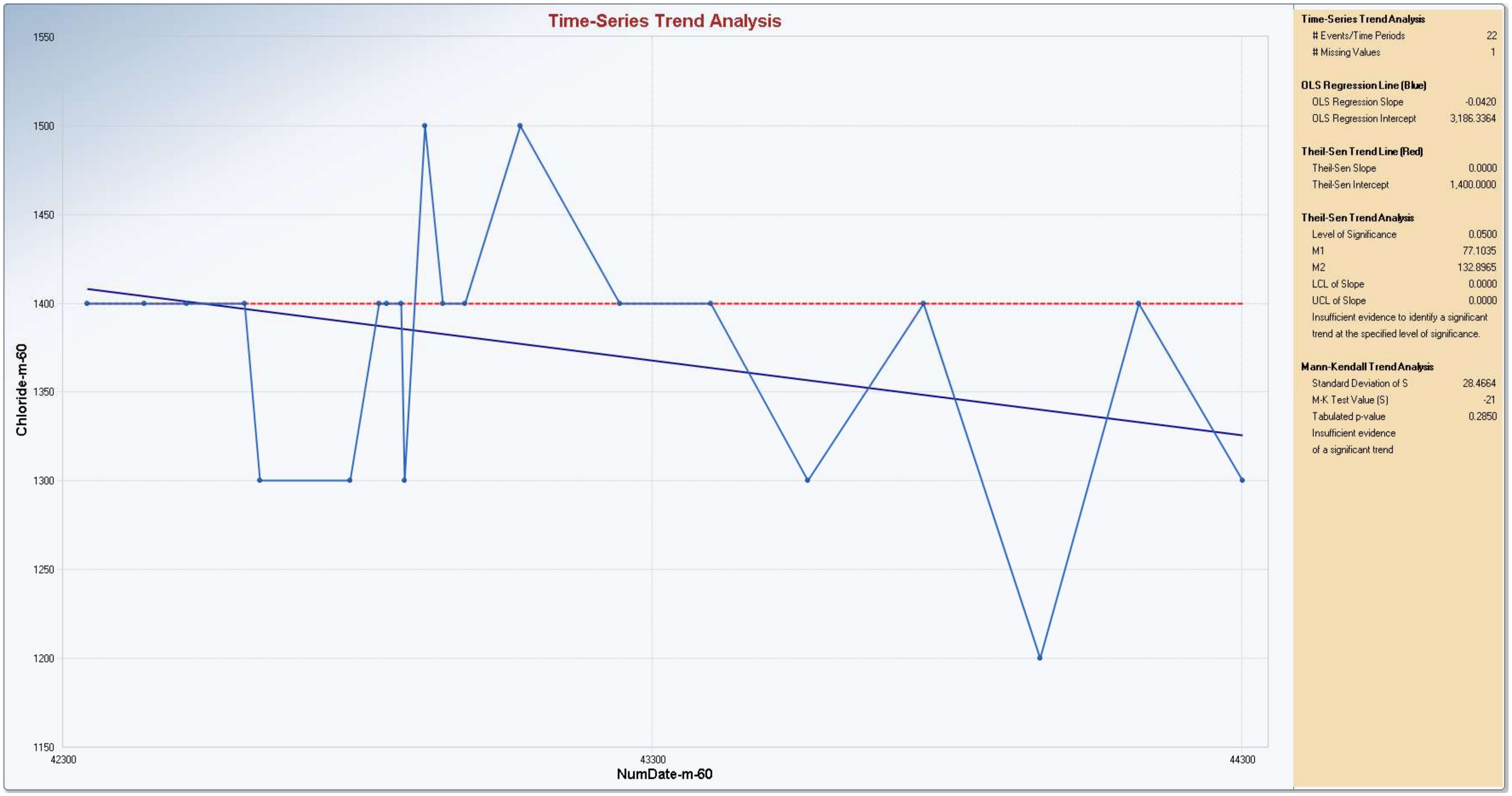
Appendix B
Time Series Plots



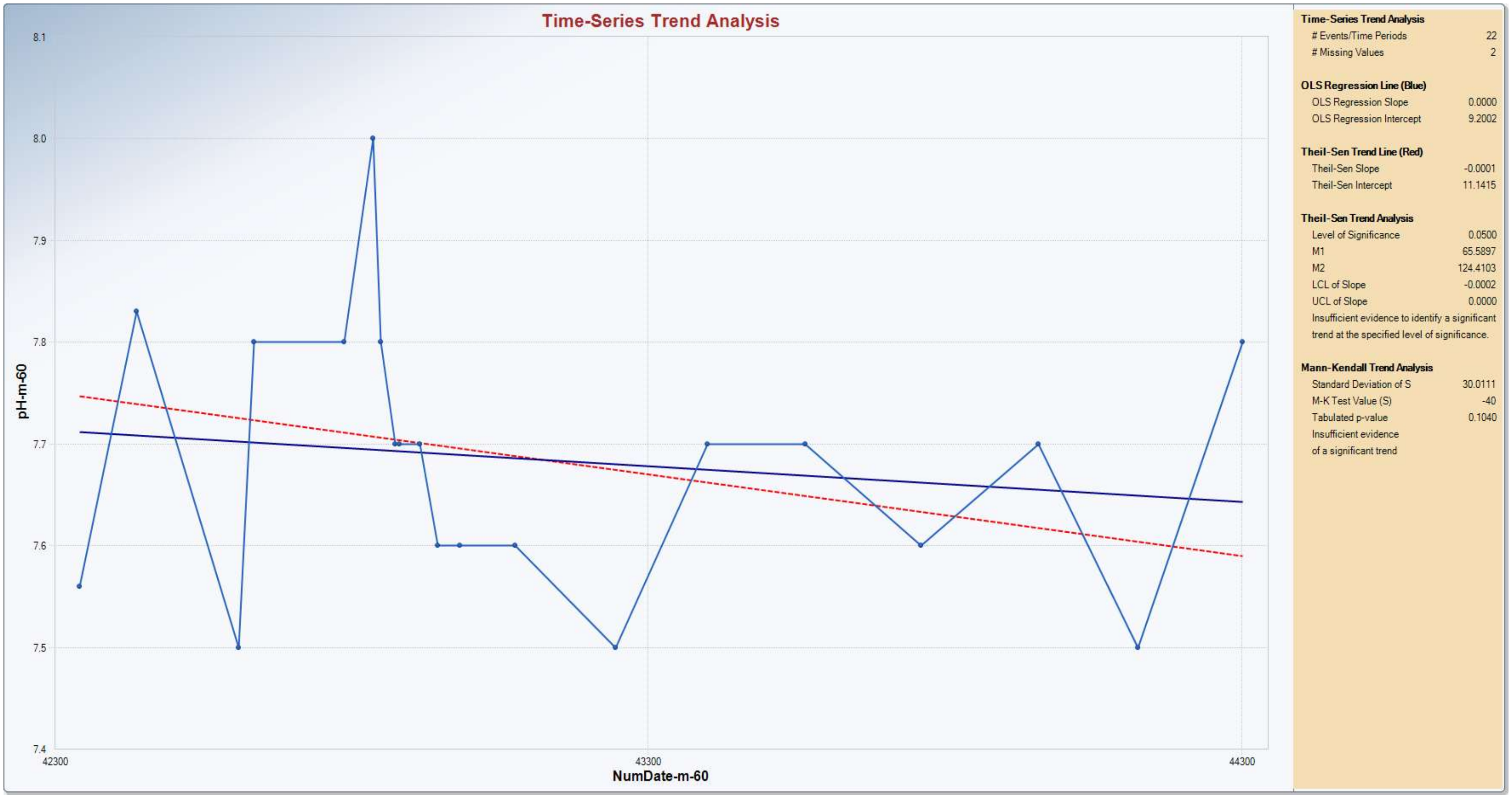
Appendix B
Time Series Plots



Appendix B
Time Series Plots

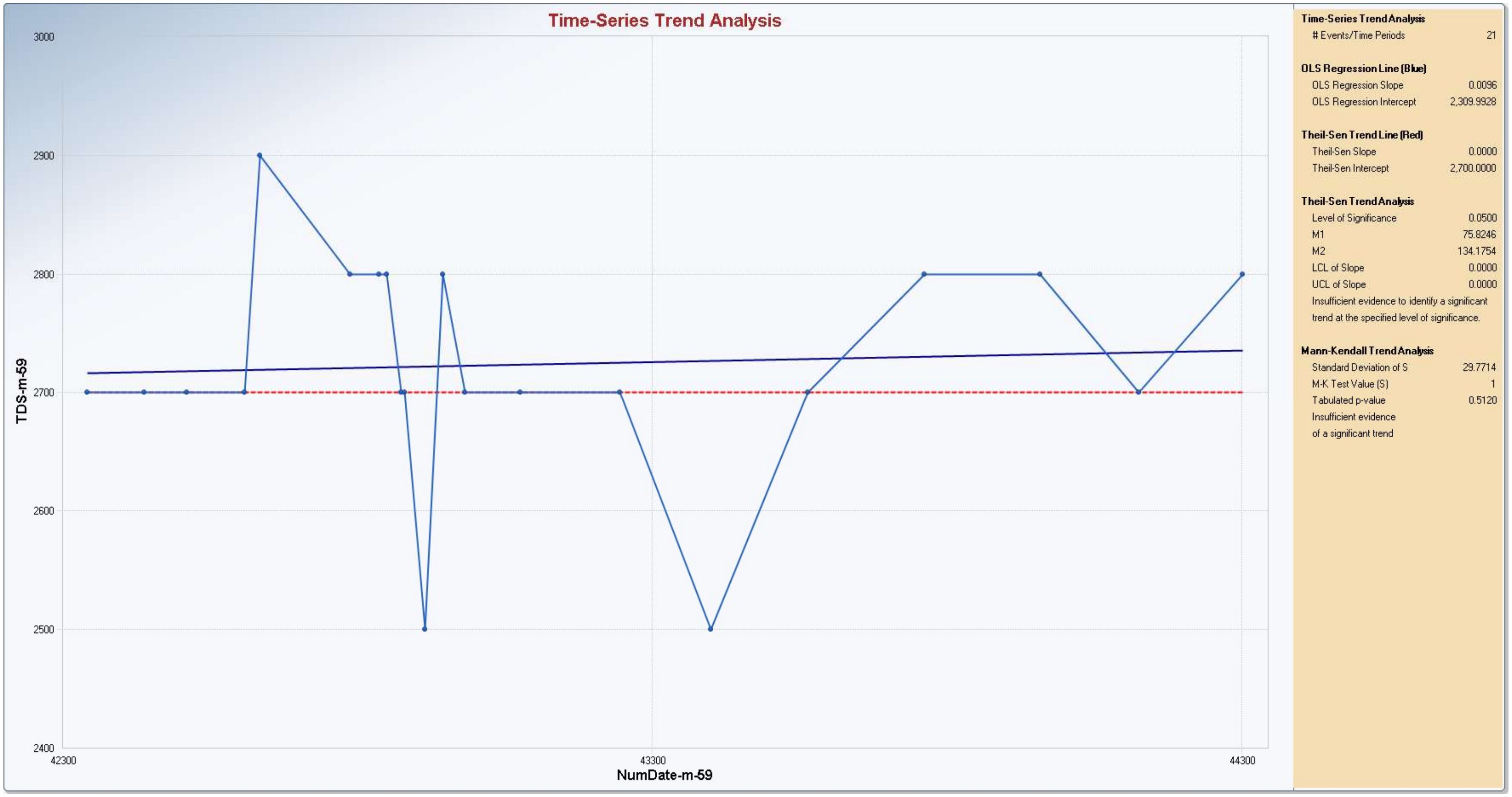


Appendix B
Time Series Plots

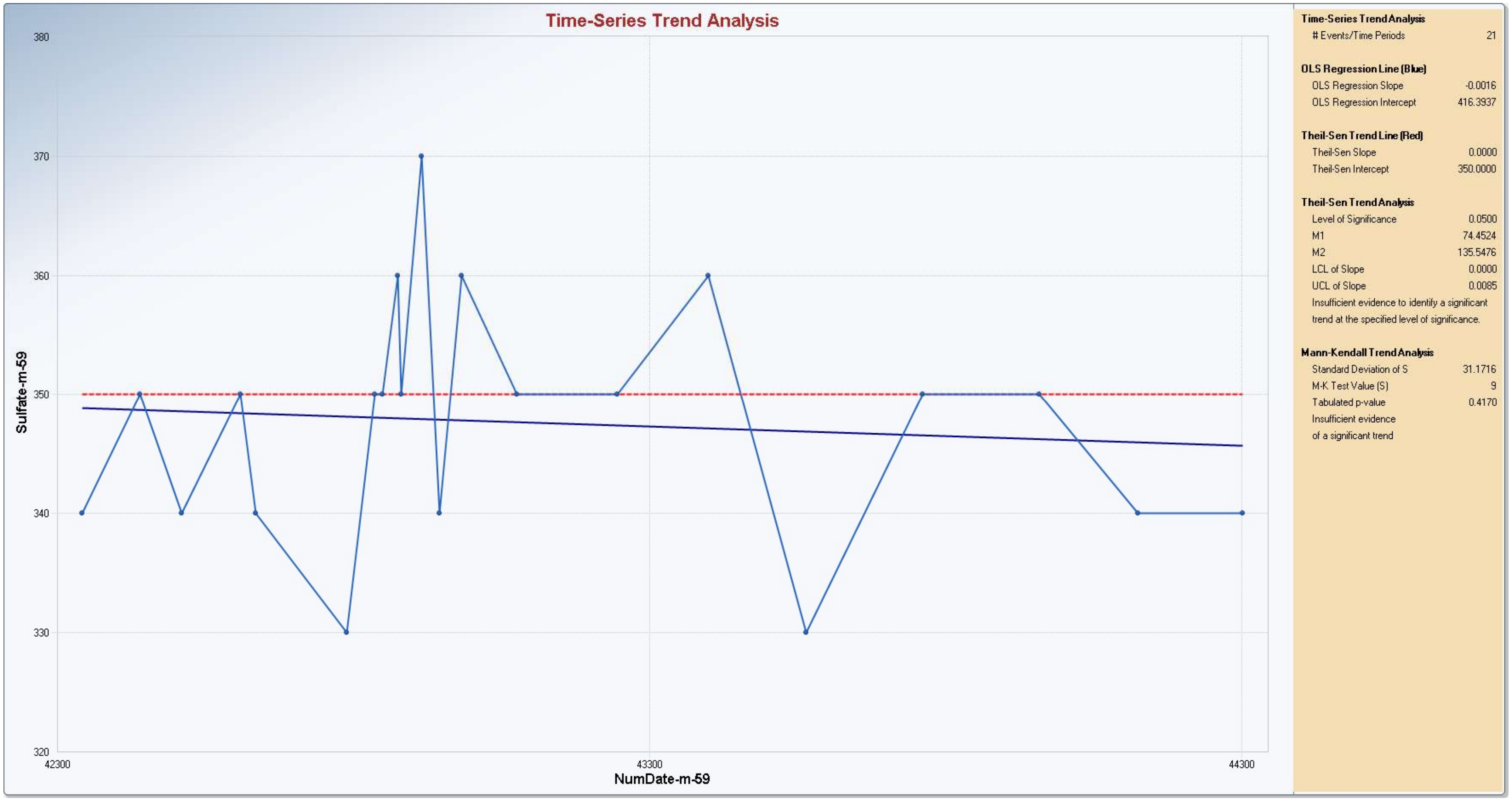


Appendix B
Time Series Plots

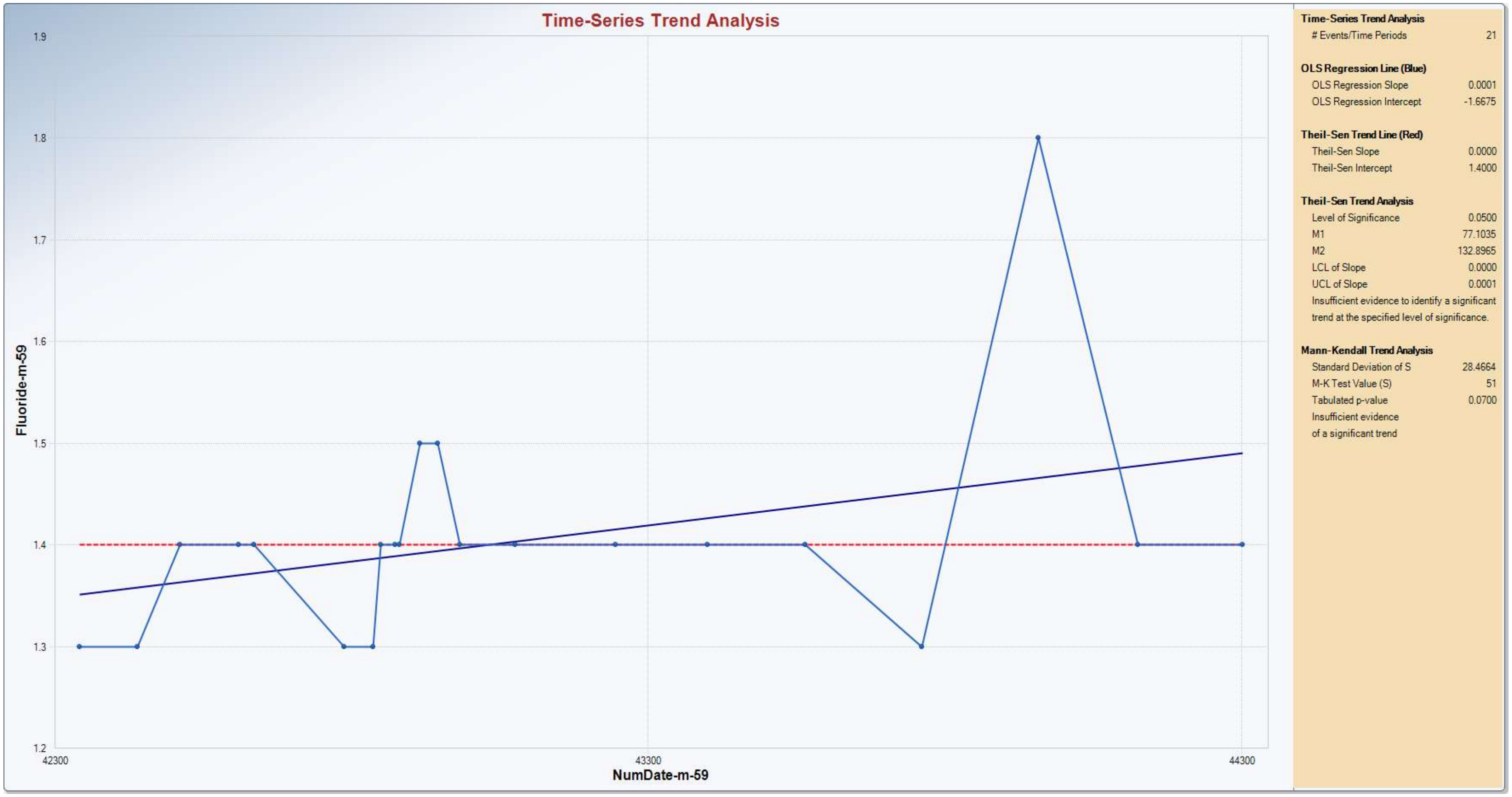
Appendix B
Time Series Plots



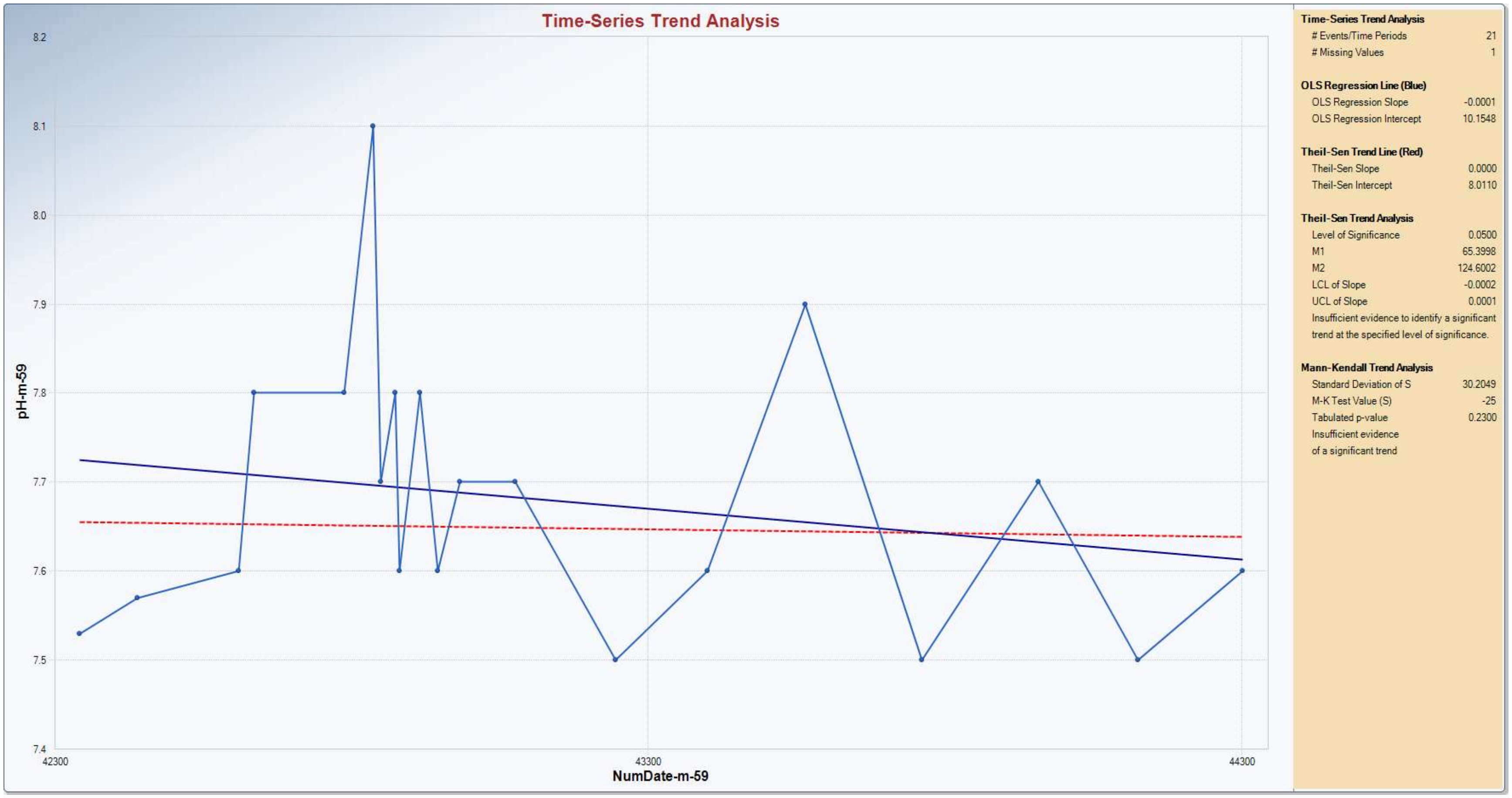
Appendix B
Time Series Plots



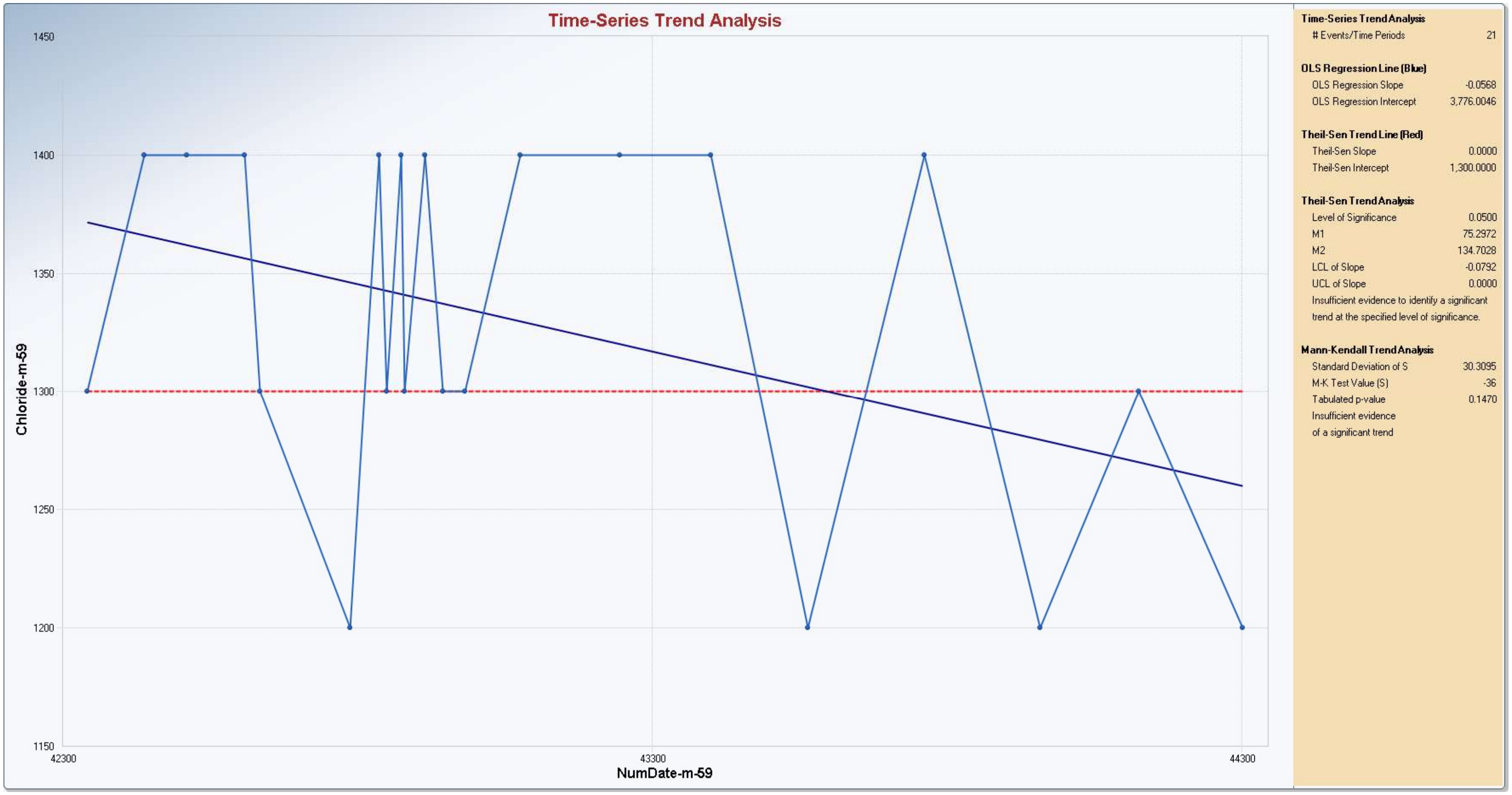
Appendix B
Time Series Plots



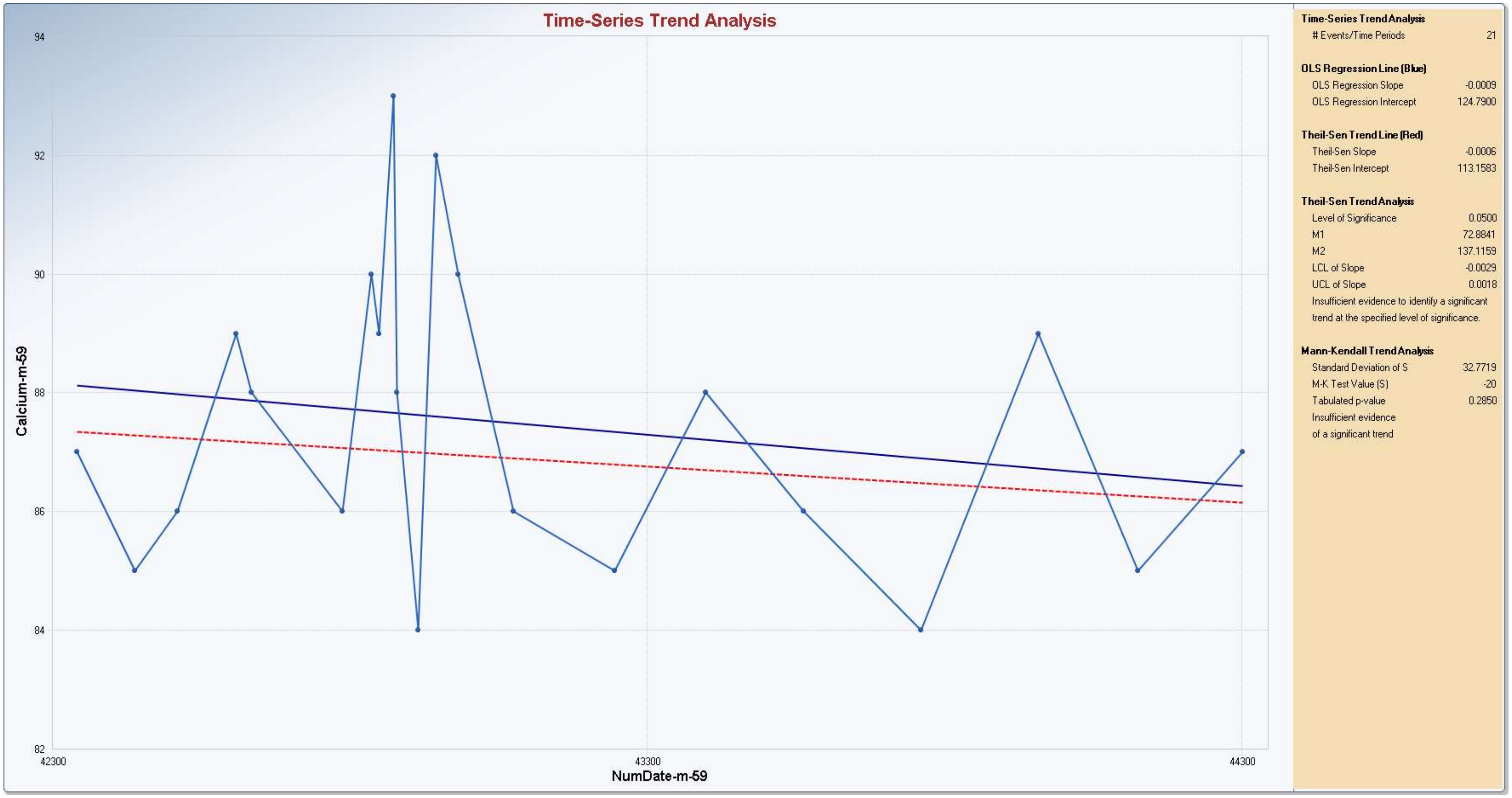
Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:01:19 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Boron-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	0.48
Maximum	0.53
Mean	0.495
Geometric Mean	0.495
Median	0.49
Standard Deviation	0.0133
Coefficient of Variation	0.0268
Mann-Kendall Test	
M-K Test Value (S)	-22
Tabulated p-value	0.265
Standard Deviation of S	31.74
Standardized Value of S	-0.662
Approximate p-value	0.254
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Boron-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Number Values Used	21
Minimum	0.48
Maximum	0.54
Mean	0.509
Geometric Mean	0.508
Median	0.51
Standard Deviation	0.0171
Coefficient of Variation	0.0336
Mann-Kendall Test	
M-K Test Value (S)	-68
Tabulated p-value	0.021
Standard Deviation of S	32.37
Standardized Value of S	-2.07
Approximate p-value	0.0192
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Boron-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.48
Maximum	0.52
Mean	0.498
Geometric Mean	0.497
Median	0.5
Standard Deviation	0.0122
Coefficient of Variation	0.0245
Mann-Kendall Test	
M-K Test Value (S)	-44
Tabulated p-value	0.098
Standard Deviation of S	31.77

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Standardized Value of S	-1.353
Approximate p-value	0.088
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:01:52 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Calcium-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	84
Maximum	93
Mean	87.48
Geometric Mean	87.44
Median	87
Standard Deviation	2.482
Coefficient of Variation	0.0284
Mann-Kendall Test	
M-K Test Value (S)	-20
Tabulated p-value	0.285
Standard Deviation of S	32.77
Standardized Value of S	-0.58
Approximate p-value	0.281
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Calcium-m-60	

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	82
Maximum	92
Mean	87.1
Geometric Mean	87.05
Median	88
Standard Deviation	2.773
Coefficient of Variation	0.0318
Mann-Kendall Test	
M-K Test Value (S)	-73
Tabulated p-value	0.015
Standard Deviation of S	32.79
Standardized Value of S	-2.196
Approximate p-value	0.014
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
Calcium-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	86
Maximum	94
Mean	90
Geometric Mean	89.97
Median	90

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Standard Deviation	2.236
Coefficient of Variation	0.0248
Mann-Kendall Test	
M-K Test Value (S)	-14
Tabulated p-value	0.349
Standard Deviation of S	32.71
Standardized Value of S	-0.397
Approximate p-value	0.346
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:05:20 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chloride-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	1200
Maximum	1400
Mean	1329
Geometric Mean	1326
Median	1300
Standard Deviation	78.38
Coefficient of Variation	0.059
Mann-Kendall Test	
M-K Test Value (S)	-36
Tabulated p-value	0.147

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Standard Deviation of S	30.31
Standardized Value of S	-1.155
Approximate p-value	0.124
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	1200
Maximum	1500
Mean	1376
Geometric Mean	1374
Median	1400
Standard Deviation	70.03
Coefficient of Variation	0.0509
Mann-Kendall Test	
M-K Test Value (S)	-21
Tabulated p-value	0.285
Standard Deviation of S	28.47
Standardized Value of S	-0.703
Approximate p-value	0.241
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chloride-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Number Values Missing	1
Number Values Used	21
Minimum	1100
Maximum	1700
Mean	1386
Geometric Mean	1381
Median	1400
Standard Deviation	110.8
Coefficient of Variation	0.08
Mann-Kendall Test	
M-K Test Value (S)	-25
Tabulated p-value	0.246
Standard Deviation of S	29.43
Standardized Value of S	-0.815
Approximate p-value	0.207
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:06:28 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
pH-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	1
Number or Reported Events Used	20
Number Values Reported (n)	21
Number Values Missing	1
Number Values Used	20
Minimum	7.5
Maximum	8.1

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Mean	7.68
Geometric Mean	7.679
Median	7.65
Standard Deviation	0.154
Coefficient of Variation	0.02
Mann-Kendall Test	
M-K Test Value (S)	-25
Tabulated p-value	0.23
Standard Deviation of S	30.2
Standardized Value of S	-0.795
Approximate p-value	0.213
Insufficient evidence to identify a significant trend at the specified level of significance.	
pH-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	2
Number or Reported Events Used	20
Number Values Reported (n)	22
Number Values Missing	2
Number Values Used	20
Minimum	7.5
Maximum	8
Mean	7.685
Geometric Mean	7.683
Median	7.7
Standard Deviation	0.13
Coefficient of Variation	0.0169
Mann-Kendall Test	
M-K Test Value (S)	-40
Tabulated p-value	0.104
Standard Deviation of S	30.01
Standardized Value of S	-1.3
Approximate p-value	0.0969

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
pH-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	2
Number or Reported Events Used	20
Number Values Reported (n)	22
Number Values Missing	2
Number Values Used	20
Minimum	7.22
Maximum	8
Mean	7.666
Geometric Mean	7.664
Median	7.7
Standard Deviation	0.176
Coefficient of Variation	0.023
Mann-Kendall Test	
M-K Test Value (S)	-5
Tabulated p-value	0.462
Standard Deviation of S	30.2
Standardized Value of S	-0.132
Approximate p-value	0.447
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:05:56 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Fluoride-m-59	

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	1.3
Maximum	1.8
Mean	1.405
Geometric Mean	1.401
Median	1.4
Standard Deviation	0.107
Coefficient of Variation	0.0763
Mann-Kendall Test	
M-K Test Value (S)	51
Tabulated p-value	0.07
Standard Deviation of S	28.47
Standardized Value of S	1.756
Approximate p-value	0.0395
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Fluoride-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	1.3
Maximum	1.7
Mean	1.448
Geometric Mean	1.446
Median	1.4
Standard Deviation	0.0814
Coefficient of Variation	0.0562

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Mann-Kendall Test	
M-K Test Value (S)	25
Tabulated p-value	0.246
Standard Deviation of S	29.43
Standardized Value of S	0.815
Approximate p-value	0.207
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Fluoride-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	0
Number or Reported Events Used	22
Number Values Reported (n)	22
Minimum	1.3
Maximum	1.6
Mean	1.432
Geometric Mean	1.43
Median	1.4
Standard Deviation	0.078
Coefficient of Variation	0.0545
Mann-Kendall Test	
M-K Test Value (S)	41
Tabulated p-value	0.131
Standard Deviation of S	32.61
Standardized Value of S	1.226
Approximate p-value	0.11
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:09:11 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Confidence Coefficient	0.95
Level of Significance	0.05
Sulfate-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	330
Maximum	370
Mean	347.6
Geometric Mean	347.5
Median	350
Standard Deviation	9.952
Coefficient of Variation	0.0286
Mann-Kendall Test	
M-K Test Value (S)	9
Tabulated p-value	0.417
Standard Deviation of S	31.17
Standardized Value of S	0.257
Approximate p-value	0.399
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Sulfate-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	340
Maximum	440
Mean	356.7

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Geometric Mean	356.2
Median	350
Standard Deviation	20.58
Coefficient of Variation	0.0577
Mann-Kendall Test	
M-K Test Value (S)	-19
Tabulated p-value	0.306
Standard Deviation of S	30.65
Standardized Value of S	-0.587
Approximate p-value	0.279
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Sulfate-m-61	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	340
Maximum	420
Mean	359.5
Geometric Mean	359.1
Median	360
Standard Deviation	19.1
Coefficient of Variation	0.0531
Mann-Kendall Test	
M-K Test Value (S)	-11
Tabulated p-value	0.394
Standard Deviation of S	32.1
Standardized Value of S	-0.312
Approximate p-value	0.378
Insufficient evidence to identify a significant	

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/21/2021 11:09:48 PM
From File	Cholla_BAM_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
TDS-m-59	
General Statistics	
Number of Events Reported (m)	21
Number of Missing Events	0
Number or Reported Events Used	21
Number Values Reported (n)	21
Minimum	2500
Maximum	2900
Mean	2724
Geometric Mean	2722
Median	2700
Standard Deviation	94.37
Coefficient of Variation	0.0346
Mann-Kendall Test	
M-K Test Value (S)	1
Tabulated p-value	0.512
Standard Deviation of S	29.77
Standardized Value of S	0
Approximate p-value	0.5
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
TDS-m-60	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	0

Appendix B
Time Series Statistics

Number of Events Reported (m)	21							
Number or Reported Events Used	22							
Number Values Reported (n)	22							
Minimum	2500							
Maximum	4200							
Mean	2859							
Geometric Mean	2846							
Median	2800							
Standard Deviation	317.2							
Coefficient of Variation	0.111							
Mann-Kendall Test								
M-K Test Value (S)	16							
Tabulated p-value	0.328							
Standard Deviation of S	32.18							
Standardized Value of S	0.466							
Approximate p-value	0.321							
Insufficient evidence to identify a significant								
trend at the specified level of significance.								
TDS-m-61								
General Statistics								
Number of Events Reported (m)	22							
Number of Missing Events	1							
Number or Reported Events Used	21							
Number Values Reported (n)	22							
Number Values Missing	1							
Number Values Used	21							
Minimum	2600							
Maximum	3000							
Mean	2814							
Geometric Mean	2812							
Median	2800							
Standard Deviation	110.8							
Coefficient of Variation	0.0394							
Mann-Kendall Test								
M-K Test Value (S)	-13							
Tabulated p-value	0.371							

Appendix B
Time Series Statistics

Number of Events Reported (m)	21
Standard Deviation of S	31.66
Standardized Value of S	-0.379
Approximate p-value	0.352

Insufficient evidence to identify a significant trend at the specified level of significance.

Appendix J

Wood Technical Memorandum Documenting the Statistical Analysis of Appendix IV Constituent Data Collected for the SEDI Through October 2020

Technical Memorandum

To:	Arizona Public Service Company	**File No:**	14-2021-2008
From:	Mari Wuollet	**Reviewed by:**	Maren Henley, PE
Date:	April 12, 2021		

Subject: **CCR GROUNDWATER ASSESSMENT MONITORING**
STATISTICAL EVALUATION OF APPENDIX IV CONSTITUENT DATA
COLLECTED FROM THE SEDIMENTATION POND THROUGH OCTOBER 2020
Arizona Public Service Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Sedimentation Pond (SEDI) located at the Arizona Public Service Company Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Wood Environment and Infrastructure Solutions, Inc. (Wood) subcontractor, Geoscience Consulting Strategies LLC (Geoscience Consulting) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (Federal Register, 2018).

The SEDI is a Site CCR unit that is currently in the assessment monitoring program. The CCR Rule requires the routine evaluation of Appendix IV constituent data collected from SEDI downgradient wells to determine if an Appendix IV constituent exceeds its respective groundwater protection standard (GWPS) at a statistically significant level (SSL). The statistical evaluation documented herein incorporates Appendix IV constituent data collected from SEDI downgradient wells M-56A, M-57A, and M-58A through October 2020 to determine if a GWPS has been exceeded.

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation conducted by Geoscience Consulting. The results of the evaluation are summarized as follows:

- There are currently no GWPS exceedances for Appendix IV constituents at the SEDI downgradient wells.

- A statistically significant decreasing temporal trend is evident for barium and molybdenum at M-56A; and for barium and cobalt at M-57A. A statistically significant increasing temporal trend is evident for arsenic and chromium at M-56A.

- BTVs were updated and are reflected in Table 1 in Attachment A.

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, continuation of assessment monitoring at a semiannual frequency for Appendix IV constituents at the SEDI is warranted because there are currently BTV exceedances but no GWPS exceedances. Wood also recommends trend testing after each monitoring event and updates to the BTVs after 1-2 years of future sampling events.

4.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: March 31, 2021

Subject: **CCR Groundwater Assessment Monitoring**
Statistical Evaluation of October 2020 Sedimentation Pond Data
Arizona Public Service Cholla Power Plant– Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the routine statistical evaluation of assessment monitoring groundwater data collected in October 2020 from the Sedimentation Pond (SEDI) located at the Arizona Public Service (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the Statistical Data Analysis Work Plan for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2018; Wood, 2018).

2.0 STATISTICAL EVALUATION APPROACH

The subject analysis was completed using ProUCL software (United States Environmental Protection Agency, 2015). Appendix A contains the ProUCL data upload table Wood Environment & Infrastructure Solutions, Inc. (Wood) put forth to complete the subject analysis, which includes SEDI compliance well data collected from November 2015 through October 2020. The Appendix IV analytes are listed by name as column headers in the ProUCL data upload table. Each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0". The non-detectable concentration corresponds to the analyte's reporting limit value for the corresponding sample date. Field and split sample duplicates were retracted from the analysis.

Table 1 presents the concentrations of Appendix IV constituents in samples collected from SEDI background (i.e., M-62A) and compliance monitoring wells (i.e., M-56A, M-57A and M-58A) in October 2020. Additionally, Table 1 reflects updates to BTVs to reflect groundwater samples collected between November 2015 and October 2020. The October 2020 sampling event constitutes the fifth sampling round under the SEDI Groundwater Assessment Monitoring program (Wood, 2019).

Appendix B presents the raw outputs from the Exploratory Data Analysis (EDA) of SEDI Appendix IV groundwater data incorporating the October 2020 sampling event, including temporal trend analysis for

Geoscience Consulting Strategies LLC
PO Box 160362
Sacramento, CA 95816
Tel: 918-809-2634

constituents exhibiting a non-detect frequency greater than 50%, goodness of fit tests and summary statistics.

3.0 EXCEEDANCE ASSESSMENT

Table 2 summarizes the GWPS for each Appendix IV constituent (Wood, 2019). GWPS selection is documented in the January 2019 Tech Memo and constitutes either the statistically calculated Background Threshold Value (BTV) (Table 1), the US EPA's promulgated Maximum Contaminant Level (MCL) for Drinking Water, or the risk-based alternative GWPS identified for constituents without MCLs, whichever value is higher. Updated BTVs shown in Table 1 were compared to the US EPA's promulgated, or risk-based alternative values. For all Appendix IV constituents (except antimony and lithium) the US EPA's promulgated MCL or the risk-based alternative GWPS is higher than the respective BTV update; therefore, the GWPSs shown in Table 2 reflects the EPA's promulgated values for these constituents. The updated BTV for antimony and lithium are higher than the respective US EPA promulgated, or risk-based alternative value, and constitute the GWPS shown in Table 2.

Table 2 summarizes: 1) compliance well comparisons to their respective GWPS for Appendix IV constituents, 2) which compliance wells exhibit statistically significant temporal trends, and 3) the type of LCL test applied after incorporating the October 2020 sampling event for each monitoring well. The addition of data to the sample population over time can cause the type of statistical test in Table 2 to change from previous evaluations.

This statistical analysis indicates there is insufficient evidence to declare a GWPS exceedance for SEDI monitoring wells M-56A, M-57A, and M-58A at the current time.

Several compliance monitoring wells exhibit statistically significant ($p<0.05$) temporal trends with no SSI declaration, including statistically significant ($p<0.05$) decreasing temporal trends in M-56A (barium and molybdenum) and M-57A (barium and cobalt) in addition to statistically significant ($p<0.05$) increasing temporal trends in M-56A (arsenic and chromium).

4.0 RECOMMENDATION

The SEDI should continue Assessment Monitoring in accordance with 40 Code of Federal Regulations Section 257.95(f) (Federal Register, 2018).

Future laboratory reporting limits should be equal to, or below, the respective BTVs to make sample concentration comparisons (Table 1) meaningful (Wood, 2018).

5.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018.*

US Environmental Protection Agency (US EPA), 2015. ProUCL (Version 5.1.1) *User Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*. EPA/600/R-07/041. Washington D.C. October 2015.

Wood, 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared for Arizona Public Service. October 2018.

Wood, 2019. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Sedimentation Pond*. Arizona Public Service Cholla Power Plant, Navajo County, Arizona. Technical Memorandum dated January 14, 2019.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2020. *CCR Groundwater Assessment Monitoring Statistical Evaluation of February and November 2019 Data Collected from the Sedimentation Pond*. Arizona Public Service Cholla Power Plant, Navajo County, Arizona. Technical Memorandum dated August 13, 2020.

ATTACHMENTS

Table 1 – Assessment Monitoring Data Collected from the Sedimentation Pond
Table 2 – GWPS Exceedance Summary for Data Collected from the Sedimentation Pond through October 2020
Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files

TABLES

Geoscience Consulting Strategies LLC
PO Box 160362
Sacramento, CA 95816
Tel: 918-809-2634

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date					
				M-56A (Compliance)					
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/18/19**	**8/9/19**	**11/25/19**	**4/16/20**	**10/21/20**
Appendix III	Boron	mg/L	0.23	0.30	---	---	---	---	---
Appendix III	Calcium	mg/L	600	300	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2000	---	---	---	---	---
Appendix III	pH	SU	7.5	7.3	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	850	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002
Appendix IV	Arsenic	mg/L	0.008	**0.0082**	0.0011	**0.0085**	**0.0088**	<0.0025	0.0044
Appendix IV	Barium	mg/L	0.16	0.067	0.055	0.078	0.063	0.052	0.05
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002
Appendix IV	Chromium	mg/L	0.018	0.0052	**0.0760**	**0.0230**	0.0086	**0.0340**	0.0041
Appendix IV	Cobalt	mg/L	0.003	0.00073	0.0013	0.0012	0.00064	<0.0025	<0.001
Appendix IV	Fluoride	mg/L	0.8	<0.4000	<0.4000	<0.8000	<0.4000	<0.8000	<0.8000
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.20	---	**<1***	0.097
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0074	0.014	0.011	0.0087	0.012	0.008
Appendix IV	Total Radium	pCi/L	2.5	0.9000	NA	0.6000	---	NA	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	0.0006	NA	---	<0.0025	<0.0010
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date					
				M-57A (Compliance)					
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/17/19**	**8/9/20**	**11/25/19**	**4/16/20**	**10/21/20**
Appendix III	Boron	mg/L	0.23	0.63	---	---	---	---	---
Appendix III	Calcium	mg/L	600	490	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2100	---	---	---	---	---
Appendix III	pH	SU	7.5	7.1	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	1300	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	NA	NA	NA	<0.005	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.0017	0.0026	0.0019	**0.021**	0.0037	0.0061
Appendix IV	Barium	mg/L	0.16	0.041	0.041	0.039	0.047	0.042	0.046
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.001
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002
Appendix IV	Chromium	mg/L	0.018	0.0074	**0.0450**	**0.0380**	0.0038	<0.005	**0.1600**
Appendix IV	Cobalt	mg/L	0.003	**0.0049**	**0.005**	**0.004**	**0.0044**	0.0028	0.0028
Appendix IV	Fluoride	mg/L	0.8	<0.4000	**0.53**	<0.8000	<0.4000	<0.8000	<0.8000
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.092
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0029	0.0078	0.0068	0.012	<0.0025	**0.018**
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	<0.7000	---	NA	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	0.0007	NA	---	<0.0025	<0.0010
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date					
				M-58A (Compliance)					
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/18/19**	**8/9/19**	**11/25/19**	**4/16/20**	**10/21/20**
Appendix III	Boron	mg/L	0.23	0.23	---	---	---	---	---
Appendix III	Calcium	mg/L	600	310	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2100	---	---	---	---	---
Appendix III	pH	SU	7.5	7.5	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	540	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.0043	0.0039	0.0038	0.0046	0.0042	0.0066
Appendix IV	Barium	mg/L	0.16	0.063	0.059	0.066	0.079	0.069	0.073
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002
Appendix IV	Chromium	mg/L	0.018	<0.0010	<0.0010	<0.001	<0.001	<0.005	<0.002
Appendix IV	Cobalt	mg/L	0.003	<0.00050	<0.00050	<0.0005	**<0.005***	<0.0025	<0.001
Appendix IV	Fluoride	mg/L	0.8	<0.4000	<0.4000	<0.8000	<0.4000	<0.8000	<0.8000
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.07
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0018	0.0018	0.0018	0.0018	<0.0025	0.0017
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	<0.7000	---	NA	0.5000
Appendix IV	Selenium	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date					
				M-62A (Background)					
Constituent	Analyte	Units	BTV	2/15/19	4/18/19	8/9/19	11/25/19	4/16/20	10/21/20
Appendix III	Boron	mg/L	0.23	0.23	---	---	---	---	---
Appendix III	Calcium	mg/L	600	490	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2900	---	---	---	---	---
Appendix III	pH	SU	7.5	7.3	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	560	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.003	0.0033	0.0031	0.0048	0.0043	0.0048
Appendix IV	Barium	mg/L	0.16	0.068	0.068	0.067	0.15	0.078	0.12
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002
Appendix IV	Chromium	mg/L	0.018	<0.0010	<0.0010	0.0037	0.0044	0.0053	0.0059
Appendix IV	Cobalt	mg/L	0.003	<0.00050	<0.00050	<0.0005	0.0012	<0.0025	0.0011
Appendix IV	Fluoride	mg/L	0.8	<0.4000	0.47	<0.4000	<0.4000	<0.8000	<0.8000
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	0.002
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.09
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0024	0.0026	0.0028	0.0091	0.004	0.015
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	0.8000	---	NA	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	<0.0005	NA	---	<0.0025	<0.0010
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	0.0002	<0.0005	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 2
GWPS Exceedance Summary for Data Collected from the Sedimentation Pond through October 2020

			Lower Confidence Limit (LCL) Results - Appendix IV Constituents						
			M-56A		M-57A		M-58A		Exceedance
Analyte	Units	GWPS	LCL	Recent Test	LCL	Recent Test	LCL	Recent Test	
Antimony	mg/L	0.05	0.0010	NP-LCL	0.0010	NP-LCL	0.0010	NP-LCL	No
Arsenic	mg/L	0.01	0.0008	NP-LCL	0.0029	P-LCL	0.0037	P-LCL	No
Barium	mg/L	2	0.0467	P-LCLT	0.0630	NP-LCL	0.0622	P-LCL	No
Beryllium	mg/L	0.004	0.0010	NP-LCL	0.0010	NP-LCL	0.0010	NP-LCL	No
Cadmium	mg/L	0.005	0.0001	NP-LCL	0.0001	NP-LCL	0.0001	NP-LCL	No
Chromium	mg/L	0.1	0.0073	P-LCLT	0.0044	P-LCL	0.0006	NP-LCL	No
Cobalt	mg/L	0.006	0.0006	P-LCL	0.0021	P-LCLT	0.0005	NP-LCL	No
Fluoride	mg/L	4	0.4000	NP-LCL	0.4000	NP-LCL	0.4000	NP-LCL	No
Lead	mg/L	0.015	0.0005	NP-LCL	0.0005	NP-LCL	0.0005	NP-LCL	No
Lithium	mg/L	0.2	0.2000	NP-LCL	0.2000	NP-LCL	0.2000	NP-LCL	No
Mercury	mg/L	0.002	0.0002	NP-LCL	0.0002	NP-LCL	0.0002	NP-LCL	No
Molybdenum	mg/L	0.1	0.0052	P-LCLT	0.0034	P-LCL	0.0017	NP-LCL	No
Total Radium	pCi/L	5	0.6000	NP-LCL	0.6000	NP-LCL	0.7000	NP-LCL	No
Selenium	mg/L	0.05	0.0005	NP-LCL	0.0005	NP-LCL	0.0005	NP-LCL	No
Thallium	mg/L	0.002	0.0001	NP-LCL	0.0001	NP-LCL	0.0001	NP-LCL	No

Notes:
Statistically significant temporal trend ($p<0.05$)

Acronymns:
GWPS = Groundwater Protection Standard
mg/L = milligrams per liter
pCi/L = picocuries per liter
P-LCL = Parametric Lower Confidence Limit
NP-LCL = Non-Parametric Lower Confidence Limit
P-LCLT = Parametric Lower Confidence Limit with a Trend

APPENDIX A

PROUCL DATA UPLOAD TABLE

Station Name	QC_SampleID	Sample Date	Antimony	D_Antimony	Arsenic	D_Arsenic	Barium	D_Barium	Beryllium	D_Beryllium	Cadmium	D_Cadmium	Chromium	D_Chromium	Cobalt	D_Cobalt
M-56A	7873_O	11/30/2015	0.0025	0	0.0019	1	0.081	1	0.001	0	0.0001	0	0.00051	1	0.0012	1
M-56A	CH-M-56A-0316_O	3/8/2016	0.05	0	0.01	0	0.084	1	0.001	0	0.002	0	0.01	0	0.002	1
M-56A	CH-CCR-M56A-05102016_O	5/10/2016	0.0001	0	0.00093	1	0.075	1	0.001	0	0.0001	0	0.0005	0	0.0013	1
M-56A	CH-CCR-M56A-816_O	8/29/2016	0.00013	1	0.00082	1	0.082	1	0.001	0	0.0001	0	0.0005	0	0.0013	1
M-56A	CH-CCR-M56A-916_O	9/21/2016	0.0005	0	0.00083	1	0.076	1	0.001	0	0.0001	0	0.0012	1	0.0012	1
M-56A	CH-CCR-M56A-217_O	2/20/2017	0.001	0	0.00068	1	0.071	1	0.001	0	0.0001	0	0.0093	1	0.00077	1
M-56A	CH-CCR-M56A-41317_O	4/13/2017	0.001	0	0.00076	1	0.07	1	0.001	0	0.0001	0	0.0091	1	0.00065	1
M-56A	CH-CCR-M56A-42517_O	4/25/2017	0.001	0	0.00075	1	0.086	1	0.001	0	0.0001	0	0.0067	1	0.00061	1
M-56A	CH-CCR-M56A-51817_O	5/18/2017	0.001	0	0.0006	1	0.062	1	0.001	0	0.0001	0	0.0063	1	0.0005	0
M-56A	CH-CCR-M56A-52517_O	5/25/2017	0.001	0	0.0007	1	0.073	1	0.001	0	0.0001	0	0.02	1	0.00075	1
M-56A	CH-CCR-M56A-70117_O	7/1/2017	0.001	0	0.00065	1	0.068	1	0.001	0	0.0001	0	0.0034	1	0.0005	0
M-56A	CH-CCR-M56A-72617_O	7/26/2017	0.002	0	0.001	0	0.066	1	0.001	0	0.0002	0	0.0028	1	0.001	0
M-56A	CH-CCR-M56A-90817_O	9/8/2017	0.004	0	0.002	0	0.07	1	0.001	0	0.0004	0	0.004	0	0.002	0
M-56A	CH-CCR-M56A-120817_O	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-56A	CH-CCR-M-56A-52118_O	5/21/2018	0.001	0	0.00081	1	0.061	1	0.001	0	0.0001	0	0.0046	1	0.0005	0
M-56A	CH-CCR-M56A-082818_O	8/28/2018	NA	NA	0.0013	1	0.065	1	NA	NA	NA	NA	0.0042	1	0.0005	0
M-56A	CH-CCR-M56A-21519	2/15/2019	NA	NA	0.0082	1	0.067	1	NA	NA	NA	NA	0.0052	1	0.00073	1
M-56A	CH-CCR-M56A-41819	4/18/2019	0.001	0	0.0011	1	0.055	1	0.001	0	0.0001	0	0.076	1	0.0013	1
M-56A	CH-CCR-M56A-8919	8/9/2019	NA	NA	0.0085	1	0.078	1	NA	NA	NA	NA	0.023	1	0.0012	1
M-56A	CH-CCR-M56A-112519	11/25/2019	NA	NA	0.0088	1	0.063	1	NA	NA	NA	NA	0.0086	1	0.00064	1
M-56A	CH-CCR-M56-0420	4/16/2020	0.005	0	0.0025	0	0.052	1	0.001	0	0.0005	0	0.034	1	0.0025	0
M-56A	CH-CCR-M56-1020	10/21/2020	0.002	0	0.0044	1	0.05	1	0.001	0	0.0002	0	0.0041	1	0.001	0
M-57A	7874_O	11/30/2015	0.0025	0	0.0048	1	0.072	1	0.001	0	0.0001	0	0.00074	1	0.0077	1
M-57A	CH-M-57A-0316_O	3/8/2016	0.05	0	0.0064	1	0.063	1	0.001	0	0.002	0	0.01	0	0.0082	1
M-57A	CH-CCR-M57A-05112016_O	5/11/2016	0.0001	0	0.0027	1	0.047	1	0.001	0	0.0001	0	0.0005	0	0.0065	1
M-57A	CH-CCR-M57A-816_O	8/25/2016	0.00012	1	0.0042	1	0.055	1	0.001	0	0.0001	0	0.00066	1	0.0078	1
M-57A	CH-CCR-M57A-916_O	9/21/2016	0.0005	0	0.0019	1	0.051	1	0.001	0	0.0001	0	0.016	1	0.0067	1
M-57A	CH-CCR-M57A-217_O	2/20/2017	0.001	0	0.0051	1	0.041	1	0.001	0	0.0001	0	0.042	1	0.0086	1
M-57A	CH-CCR-M57A-41217_O	4/12/2017	0.001	0	0.0042	1	0.042	1	0.001	0	0.0001	0	0.031	1	0.0087	1
M-57A	CH-CCR-M57A-42517_O	4/25/2017	0.001	0	0.0039	1	0.042	1	0.001	0	0.0001	0	0.019	1	0.0077	1
M-57A	CH-CCR-M57A-51817_O	5/18/2017	0.001	0	0.0098	1	0.038	1	0.001	0	0.0001	0	0.024	1	0.0076	1
M-57A	CH-CCR-M57A-52517_O	5/25/2017	0.001	0	0.0066	1	0.044	1	0.001	0	0.0001	0	0.035	1	0.0083	1
M-57A	CH-CCR-M57A-70117_O	7/1/2017	0.001	0	0.0038	1	0.043	1	0.001	0	0.0001	0	0.012	1	0.0075	1
M-57A	CH-CCR-M57A-72617_O	7/26/2017	0.002	0	0.0027	1	0.042	1	0.001	0	0.0002	0	0.028	1	0.0088	1
M-57A	CH-CCR-M57A-90817_O	9/8/2017	0.004	0	0.0027	1	0.045	1	0.001	0	0.0004	0	0.015	1	0.0082	1
M-57A	CH-CCR-M57A-120817_O	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-57A	CH-CCR-M-57A-52118_O	5/21/2018	0.002	0	0.0022	1	0.043	1	0.001	0	0.0002	0	0.0023	1	0.0058	1
M-57A	CH-CCR-M57A-082818_O	8/28/2018	NA	NA	0.0021	1	0.045	1	NA	NA	NA	NA	0.0067	1	0.0057	1
M-57A	CH-CCR-M57A-21519	2/15/2019	NA	NA	0.0017	1	0.041	1	NA	NA	NA	NA	0.0074	1	0.0049	1
M-57A	CH-CCR-M57A-41719	4/17/2019	0.001	0	0.0026	1	0.041	1	0.001	0	0.0001	0	0.045	1	0.005	1
M-57A	CH-CCR-M57A-8919	8/9/2019	NA	NA	0.0019	1	0.039	1	NA	NA	NA	NA	0.038	1	0.004	1
M-57A	CH-CCR-M57A-112519	11/25/2019	NA	NA	0.021	1	0.047	1	NA	NA	NA	NA	0.0038	1	0.0044	1
M-57A	CH-CCR-M57-0420	4/16/2020	0.005	0	0.0037	1	0.042	1	0.001	0	0.0005	0	0.005	0	0.0028	1
M-57A	CH-CCR-M57-1020	10/21/2020	0.002	0	0.0061	1	0.046	1	0.001	0	0.0002	0	0.16	1	0.0028	1
M-58A	7876_O	11/30/2015	0.0025	0	0.0032	1	0.1	1	0.001	0	0.0001	0	0.0005	0	0.0011	1
M-58A	CH-M-58A-0316_O	3/8/2016	0.05	0	0.01	0	0.081	1	0.001	0	0.002	0	0.01	0	0.01	0
M-58A	CH-CCR-M58A-05112016_O	5/11/2016	0.0001	0	0.0025	1	0.055	1	0.001	0	0.0001	0	0.0005	0	0.00051	1
M-58A	CH-CCR-M58A-816_O	8/25/2016	0.0001	0	0.0045	1	0.097	1	0.001	0	0.0001	0	0.00097	1	0.00079	1
M-58A	CH-CCR-M58A-916_O	9/21/2016	0.0005	0	0.0039	1	0.076	1	0.001	0	0.0001	0	0.0018	1	0.00057	1
M-58A	CH-CCR-M58A-217_O	2/20/2017	0.001	0	0.0027	1	0.064	1	0.001	0	0.0001	0	0.0033	1	0.00097	1
M-58A	CH-CCR-M58A-41217_O	4/12/2017	0.001	0	0.0037	1	0.048	1	0.001	0	0.0001	0	0.00091	1	0.0005	0
M-58A	CH-CCR-M58A-42517_O	4/25/2017	0.001	0	0.004	1	0.049	1	0.001	0	0.0001	0	0.001	1	0.0005	0
M-58A	CH-CCR-M58A-51817_O	5/18/2017	0.001	0	0.003	1	0.043	1	0.001	0	0.0001	0	0.00052	1	0.0005	0
M-58A	CH-CCR-M58A-52517_O	5/25/2017	0.001	0	0.0051	1	0.055	1	0.001	0	0.0001	0	0.00055	1	0.0005	0
M-58A	CH-CCR-M58A-70117_O	7/1/2017	0.001	0	0.0047	1	0.063	1	0.001	0	0.0001	0	0.0005	0	0.0005	0
M-58A	CH-CCR-M58A-72617_O	7/26/2017	0.002	0	0.0057	1	0.11	1	0.001	0	0.0002	0	0.003	1	0.001	1
M-58A	CH-CCR-M58A-90817_O	9/8/2017	0.004	0	0.0048	1	0.08	1	0.001	0	0.0004	0	0.004	0	0.002	0
M-58A	CH-CCR-M58A-120817_O	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-58A	CH-CCR-M-58A-52118_O	5/21/2018	0.002	0	0.0042	1	0.071	1	0.001	0	0.0002	0	0.002	0	0.001	0
M-58A	CH-CCR-M58A-082818_O	8/28/2018	NA	NA	0.0037	1	0.075	1	NA	NA	NA	NA	0.001	0	0.0005	0

Station Name	QC_SampleID	Sample Date	Fluoride	D_Fluoride	Lead	D_Lead	Lithium	D_Lithium	Mercury	D_Mercury	Molybdenum	D_Molybdenum	Total Radium	D_Total Radium	Selenium	D_Selenium
M-56A	7873_O	11/30/2015	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0096	1	0.9	0	0.00033	1
M-56A	CH-M-56A-0316_O	3/8/2016	0.43	1	0.01	0	0.2	0	0.0002	0	0.029	1	0.4	0	0.01	0
M-56A	CH-CCR-M56A-05102016_O	5/10/2016	0.42	1	0.0005	0	0.2	0	0.0002	0	0.023	1	0.6	1	0.0005	0
M-56A	CH-CCR-M56A-816_O	8/29/2016	0.46	1	0.0005	0	0.2	0	0.0002	0	0.021	1	1.6	1	0.0005	0
M-56A	CH-CCR-M56A-916_O	9/21/2016	0.4	1	0.0001	0	0.2	0	0.0002	0	0.016	1	0.6	1	0.0006	0
M-56A	CH-CCR-M56A-217_O	2/20/2017	0.4	1	0.0005	0	0.2	0	0.0002	0	0.013	1	1.8	1	0.0005	0
M-56A	CH-CCR-M56A-41317_O	4/13/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.011	1	1.2	1	0.0005	0
M-56A	CH-CCR-M56A-42517_O	4/25/2017	0.8	0	0.0005	0	0.2	0	0.0002	0	0.013	1	1.9	1	0.00056	1
M-56A	CH-CCR-M56A-51817_O	5/18/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0095	1	1.2	0	0.0005	0
M-56A	CH-CCR-M56A-52517_O	5/25/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.011	1	1.5	1	0.00057	1
M-56A	CH-CCR-M56A-70117_O	7/1/2017	0.41	1	0.0005	0	0.2	0	0.0002	0	0.0098	1	0.7	0	0.0005	0
M-56A	CH-CCR-M56A-72617_O	7/26/2017	0.4	0	0.001	0	0.2	0	0.0002	0	0.009	1	1.7	1	0.001	0
M-56A	CH-CCR-M56A-90817_O	9/8/2017	0.47	1	0.002	0	0.2	0	0.0002	0	0.0093	1	0.5	1	0.002	0
M-56A	CH-CCR-M56A-120817_O	12/8/2017	0.49	1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-56A	CH-CCR-M-56A-52118_O	5/21/2018	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0079	1	1.4	1	0.0005	0
M-56A	CH-CCR-M56A-082818_O	8/28/2018	NA	NA	NA	NA	NA	NA	NA	NA	0.0057	1	0.5	1	NA	NA
M-56A	CH-CCR-M56A-21519	2/15/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0074	1	NA	NA	NA	NA
M-56A	CH-CCR-M56A-41819	4/18/2019	0.4	0	0.0005	0	0.2	0	0.0002	0	0.014	1	0.7	0	0.00062	1
M-56A	CH-CCR-M56A-8919	8/9/2019	0.8	0	NA	NA	0.2	0	NA	NA	0.011	1	0.6	1	NA	NA
M-56A	CH-CCR-M56A-112519	11/25/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0087	1	NA	NA	NA	NA
M-56A	CH-CCR-M56-0420	4/16/2020	0.8	0	0.0025	0	1	0	0.0002	0	0.012	1	NA	NA	0.0025	0
M-56A	CH-CCR-M56-1020	10/21/2020	0.8	0	0.001	0	0.097	1	0.0002	0	0.008	1	0.8	0	0.001	0
M-57A	7874_O	11/30/2015	0.4	0	0.00086	1	0.2	0	0.0002	0	0.008	1	0.9	0	0.00029	1
M-57A	CH-M-57A-0316_O	3/8/2016	0.4	0	0.01	0	0.2	0	0.0002	0	0.004	1	0.4	0	0.01	0
M-57A	CH-CCR-M57A-05112016_O	5/11/2016	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0011	1	0.6	0	0.0005	0
M-57A	CH-CCR-M57A-816_O	8/25/2016	0.4	0	0.0005	0	0.2	0	0.0002	0	0.022	1	0.6	0	0.0005	0
M-57A	CH-CCR-M57A-916_O	9/21/2016	0.4	0	0.00021	1	0.2	0	0.0002	0	0.0029	1	0.7	0	0.0006	0
M-57A	CH-CCR-M57A-217_O	2/20/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0048	1	1.1	1	0.0005	0
M-57A	CH-CCR-M57A-41217_O	4/12/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0047	1	0.6	0	0.0005	0
M-57A	CH-CCR-M57A-42517_O	4/25/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0042	1	0.6	0	0.0005	0
M-57A	CH-CCR-M57A-51817_O	5/18/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0041	1	1.5	1	0.0005	0
M-57A	CH-CCR-M57A-52517_O	5/25/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0063	1	0.5	1	0.0005	0
M-57A	CH-CCR-M57A-70117_O	7/1/2017	0.42	1	0.0005	0	0.2	0	0.0002	0	0.0037	1	0.7	0	0.0005	0
M-57A	CH-CCR-M57A-72617_O	7/26/2017	0.4	0	0.001	0	0.2	0	0.0002	0	0.0058	1	0.7	0	0.001	0
M-57A	CH-CCR-M57A-90817_O	9/8/2017	0.4	0	0.002	0	0.2	0	0.0002	0	0.0046	1	0.6	1	0.002	0
M-57A	CH-CCR-M57A-120817_O	12/8/2017	0.4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-57A	CH-CCR-M-57A-52118_O	5/21/2018	0.4	0	0.001	0	0.2	0	0.0002	0	0.0026	1	0.7	0	0.001	0
M-57A	CH-CCR-M57A-082818_O	8/28/2018	NA	NA	NA	NA	NA	NA	NA	NA	0.003	1	0.7	1	NA	NA
M-57A	CH-CCR-M57A-21519	2/15/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0029	1	NA	NA	NA	NA
M-57A	CH-CCR-M57A-41719	4/17/2019	0.53	1	0.0005	0	0.2	0	0.0002	0	0.0078	1	0.7	0	0.00069	1
M-57A	CH-CCR-M57A-8919	8/9/2019	0.8	0	NA	NA	0.2	0	NA	NA	0.0068	1	0.7	0	NA	NA
M-57A	CH-CCR-M57A-112519	11/25/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.012	1	NA	NA	NA	NA
M-57A	CH-CCR-M57-0420	4/16/2020	0.8	0	0.0025	0	1	0	0.0002	0	0.0025	0	NA	NA	0.0025	0
M-57A	CH-CCR-M57-1020	10/21/2020	0.8	0	0.001	0	0.092	1	0.0002	0	0.018	1	0.8	0	0.001	0
M-58A	7876_O	11/30/2015	0.43	1	0.00056	1	0.2	0	0.0002	0	0.0047	1	0.9	0	0.00024	1
M-58A	CH-M-58A-0316_O	3/8/2016	0.4	0	0.01	0	0.2	0	0.0002	0	0.01	0	0.6	0	0.01	0
M-58A	CH-CCR-M58A-05112016_O	5/11/2016	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.9	1	0.0005	0
M-58A	CH-CCR-M58A-816_O	8/25/2016	0.4	0	0.00059	1	0.2	0	0.0002	0	0.02	1	2.6	1	0.0005	0
M-58A	CH-CCR-M58A-916_O	9/21/2016	0.4	0	0.0001	0	0.2	0	0.0002	0	0.0025	1	1.2	1	0.0006	0
M-58A	CH-CCR-M58A-217_O	2/20/2017	0.4	0	0.00078	1	0.2	0	0.0002	0	0.0022	1	0.8	1	0.0005	0
M-58A	CH-CCR-M58A-41217_O	4/12/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0017	1	1.9	1	0.0005	0
M-58A	CH-CCR-M58A-42517_O	4/25/2017	0.8	0	0.0005	0	0.2	0	0.0002	0	0.0015	1	0.9	1	0.0005	0
M-58A	CH-CCR-M58A-51817_O	5/18/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0014	1	0.6	0	0.0005	0
M-58A	CH-CCR-M58A-52517_O	5/25/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0016	1	2.2	1	0.0005	0
M-58A	CH-CCR-M58A-70117_O	7/1/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.7	0	0.0005	0
M-58A	CH-CCR-M58A-72617_O	7/26/2017	0.4	0	0.0011	1	0.2	0	0.0002	0	0.0021	1	0.7	0	0.001	0
M-58A	CH-CCR-M58A-90817_O	9/8/2017	0.4	0	0.002	0	0.2	0	0.0002	0	0.0022	1	0.7	0	0.002	0
M-58A	CH-CCR-M58A-120817_O	12/8/2017	0.4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-58A	CH-CCR-M-58A-52118_O	5/21/2018	0.4	0	0.001	0	0.2	0	0.0002	0	0.0018	1	0.7	1	0.001	0
M-58A	CH-CCR-M58A-082818_O	8/28/2018	NA	NA	NA	NA	NA	NA	NA	NA	0.0017	1	0.6	0	NA	NA

Station Name	QC_SampleID	Sample Date	Thallium	D_Thallium
M-56A	7873_O	11/30/2015	0.0001	0
M-56A	CH-M-56A-0316_O	3/8/2016	0.002	0
M-56A	CH-CCR-M56A-05102016_O	5/10/2016	0.0001	0
M-56A	CH-CCR-M56A-816_O	8/29/2016	0.0001	0
M-56A	CH-CCR-M56A-916_O	9/21/2016	0.0001	0
M-56A	CH-CCR-M56A-217_O	2/20/2017	0.0001	0
M-56A	CH-CCR-M56A-41317_O	4/13/2017	0.0001	0
M-56A	CH-CCR-M56A-42517_O	4/25/2017	0.0001	0
M-56A	CH-CCR-M56A-51817_O	5/18/2017	0.0001	0
M-56A	CH-CCR-M56A-52517_O	5/25/2017	0.0001	0
M-56A	CH-CCR-M56A-70117_O	7/1/2017	0.0001	0
M-56A	CH-CCR-M56A-72617_O	7/26/2017	0.0002	0
M-56A	CH-CCR-M56A-90817_O	9/8/2017	0.0004	0
M-56A	CH-CCR-M56A-120817_O	12/8/2017	NA	NA
M-56A	CH-CCR-M-56A-52118_O	5/21/2018	0.00012	1
M-56A	CH-CCR-M56A-082818_O	8/28/2018	0.0001	0
M-56A	CH-CCR-M56A-21519	2/15/2019	0.0001	0
M-56A	CH-CCR-M56A-41819	4/18/2019	0.0001	0
M-56A	CH-CCR-M56A-8919	8/9/2019	0.0001	0
M-56A	CH-CCR-M56A-112519	11/25/2019	0.0001	0
M-56A	CH-CCR-M56-0420	4/16/2020	0.0005	0
M-56A	CH-CCR-M56-1020	10/21/2020	0.0002	0
M-57A	7874_O	11/30/2015	0.0001	0
M-57A	CH-M-57A-0316_O	3/8/2016	0.002	0
M-57A	CH-CCR-M57A-05112016_O	5/11/2016	0.0001	0
M-57A	CH-CCR-M57A-816_O	8/25/2016	0.0001	0
M-57A	CH-CCR-M57A-916_O	9/21/2016	0.0001	0
M-57A	CH-CCR-M57A-217_O	2/20/2017	0.0001	0
M-57A	CH-CCR-M57A-41217_O	4/12/2017	0.0001	0
M-57A	CH-CCR-M57A-42517_O	4/25/2017	0.0001	0
M-57A	CH-CCR-M57A-51817_O	5/18/2017	0.0001	0
M-57A	CH-CCR-M57A-52517_O	5/25/2017	0.0001	0
M-57A	CH-CCR-M57A-70117_O	7/1/2017	0.0001	0
M-57A	CH-CCR-M57A-72617_O	7/26/2017	0.0002	0
M-57A	CH-CCR-M57A-90817_O	9/8/2017	0.0004	0
M-57A	CH-CCR-M57A-120817_O	12/8/2017	NA	NA
M-57A	CH-CCR-M-57A-52118_O	5/21/2018	0.0002	0
M-57A	CH-CCR-M57A-082818_O	8/28/2018	0.0001	0
M-57A	CH-CCR-M57A-21519	2/15/2019	0.0001	0
M-57A	CH-CCR-M57A-41719	4/17/2019	0.0001	0
M-57A	CH-CCR-M57A-8919	8/9/2019	0.0001	0
M-57A	CH-CCR-M57A-112519	11/25/2019	0.0001	0
M-57A	CH-CCR-M57-0420	4/16/2020	0.0005	0
M-57A	CH-CCR-M57-1020	10/21/2020	0.0002	0
M-58A	7876_O	11/30/2015	0.0001	0
M-58A	CH-M-58A-0316_O	3/8/2016	0.002	0
M-58A	CH-CCR-M58A-05112016_O	5/11/2016	0.0001	0
M-58A	CH-CCR-M58A-816_O	8/25/2016	0.0001	0
M-58A	CH-CCR-M58A-916_O	9/21/2016	0.0001	0
M-58A	CH-CCR-M58A-217_O	2/20/2017	0.0001	0
M-58A	CH-CCR-M58A-41217_O	4/12/2017	0.0001	0
M-58A	CH-CCR-M58A-42517_O	4/25/2017	0.0001	0
M-58A	CH-CCR-M58A-51817_O	5/18/2017	0.0001	0
M-58A	CH-CCR-M58A-52517_O	5/25/2017	0.0001	0
M-58A	CH-CCR-M58A-70117_O	7/1/2017	0.0001	0
M-58A	CH-CCR-M58A-72617_O	7/26/2017	0.0002	0
M-58A	CH-CCR-M58A-90817_O	9/8/2017	0.0004	0
M-58A	CH-CCR-M58A-120817_O	12/8/2017	NA	NA
M-58A	CH-CCR-M-58A-52118_O	5/21/2018	0.0002	0
M-58A	CH-CCR-M58A-082818_O	8/28/2018	0.0001	0

Appendix A
ProUCL Data

Station Name	QC_SampleID	Sample Date	Antimony	D_Antimony	Arsenic	D_Arsenic	Barium	D_Barium	Beryllium	D_Beryllium	Cadmium	D_Cadmium	Chromium	D_Chromium	Cobalt	D_Cobalt
M-58A	CH-CCR-M58A-21519	2/15/2019	NA	NA	0.0043	1	0.063	1	NA	NA	NA	NA	0.001	0	0.0005	0
M-58A	CH-CCR-M58A-41719	4/17/2019	0.001	0	0.0039	1	0.059	1	0.001	0	0.0001	0	0.001	0	0.0005	0
M-58A	CH-CCR-M58A-8919	8/9/2019	NA	NA	0.0038	1	0.066	1	NA	NA	NA	NA	0.001	0	0.0005	0
M-58A	CH-CCR-M58A-112519	11/25/2019	NA	NA	0.0046	1	0.079	1	NA	NA	NA	NA	0.001	0	0.0005	0
M-58A	CH-CCR-M58-0420	4/16/2020	0.005	0	0.0042	1	0.069	1	0.001	0	0.0005	0	0.005	0	0.0025	0
M-58A	CH-CCR-M58-1020	10/21/2020	0.002	0	0.0066	1	0.073	1	0.001	0	0.0002	0	0.002	0	0.001	0
M-62A	7872_O	11/30/2015	0.0025	0	0.002	1	0.082	1	0.001	0	0.0001	0	0.00078	1	0.00054	1
M-62A	CH-M-62A-0316_O	3/8/2016	0.05	0	0.01	0	0.16	1	0.001	0	0.002	0	0.01	0	0.0022	1
M-62A	CH-CCR-MW62A-50516_O	5/5/2016	0.0001	0	0.003	1	0.084	1	0.001	0	0.0001	0	0.0014	1	0.0012	1
M-62A	CH-CCR-M62A-816_O	8/29/2016	0.0001	0	0.0031	1	0.082	1	0.001	0	0.0001	0	0.0005	0	0.0005	0
M-62A	CH-CCR-M62A-916_O	9/21/2016	0.0005	0	0.0028	1	0.075	1	0.001	0	0.0001	0	0.00099	1	0.00046	1
M-62A	CH-CCR-M62A-217_O	2/20/2017	0.001	0	0.0029	1	0.064	1	0.001	0	0.0001	0	0.002	1	0.0005	0
M-62A	CH-CCR-M62A-41317_O	4/13/2017	0.001	0	0.0021	1	0.074	1	0.001	0	0.0001	0	0.0015	1	0.0005	0
M-62A	CH-CCR-M62A-42517_O	4/25/2017	0.001	0	0.0017	1	0.079	1	0.001	0	0.0001	0	0.0017	1	0.0005	0
M-62A	CH-CCR-M62A-51817_O	5/18/2017	0.001	0	0.0016	1	0.072	1	0.001	0	0.0001	0	0.00063	1	0.0005	0
M-62A	CH-CCR-M62A-52517_O	5/25/2017	0.001	0	0.0019	1	0.077	1	0.001	0	0.0001	0	0.00096	1	0.0005	0
M-62A	CH-CCR-M62A-70117_O	7/1/2017	0.001	0	0.0026	1	0.076	1	0.001	0	0.0001	0	0.0011	1	0.0005	0
M-62A	CH-CCR-M62A-72617_O	7/26/2017	0.002	0	0.0024	1	0.075	1	0.001	0	0.0002	0	0.001	0	0.001	0
M-62A	CH-CCR-M62A-90717_O	9/7/2017	0.004	0	0.0031	1	0.079	1	0.001	0	0.0004	0	0.004	0	0.002	0
M-62A	CH-CCR-M62A-120817_O	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-62A	CH-CCR-M-62A-52118_O	5/21/2018	0.002	0	0.0029	1	0.072	1	0.001	0	0.0002	0	0.002	0	0.001	0
M-62A	CH-CCR-M62A-082818_O	8/28/2018	NA	NA	0.0029	1	0.074	1	NA	NA	NA	NA	0.001	0	0.0005	0
M-62A	CH-CCR-M62A-21519	2/15/2019	NA	NA	0.003	1	0.068	1	NA	NA	NA	NA	0.001	0	0.0005	0
M-62A	CH-CCR-M62A-112519	11/25/2019	NA	NA	0.0048	1	0.15	1	NA	NA	NA	NA	0.0044	1	0.0012	1
M-62A	CH-CCR-M62A-41819	4/18/2019	0.001	0	0.0033	1	0.068	1	0.001	0	0.0001	0	0.001	0	0.0005	0
M-62A	CH-CCR-M62A-8919	8/9/2019	NA	NA	0.0031	1	0.067	1	NA	NA	NA	NA	0.0037	1	0.0005	0
M-62A	CH-CCR-M62-0420	4/16/2020	0.005	0	0.0043	1	0.078	1	0.001	0	0.0005	0	0.0053	1	0.0025	0
M-62A	CH-CCR-M62-1020	10/20/2020	0.002	0	0.0048	1	0.12	1	0.001	0	0.0002	0	0.0059	1	0.0011	1

Station Name	QC_SampleID	Sample Date	Fluoride	D_Fluoride	Lead	D_Lead	Lithium	D_Lithium	Mercury	D_Mercury	Molybdenum	D_Molybdenum	Total Radium	D_Total Radium	Selenium	D_Selenium
M-58A	CH-CCR-M58A-21519	2/15/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0018	NA	NA	NA	NA	NA
M-58A	CH-CCR-M58A-41719	4/17/2019	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.7	0	0.0005	0
M-58A	CH-CCR-M58A-8919	8/9/2019	0.8	0	NA	NA	0.2	0	NA	NA	0.0018	1	0.7	0	NA	NA
M-58A	CH-CCR-M58A-112519	11/25/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0018	1	NA	NA	NA	NA
M-58A	CH-CCR-M58-0420	4/16/2020	0.8	0	0.0025	0	1	0	0.0002	0	0.0025	0	NA	NA	0.0025	0
M-58A	CH-CCR-M58-1020	10/21/2020	0.8	0	0.001	0	0.07	1	0.0002	0	0.0017	1	0.5	1	0.001	0
M-62A	7872_O	11/30/2015	0.4	0	0.0005	0	0.2	0	0.0002	0	0.011	1	0.7	0	0.00071	1
M-62A	CH-M-62A-0316_O	3/8/2016	0.8	0	0.01	0	0.2	0	0.0002	0	0.0044	1	1	1	0.01	0
M-62A	CH-CCR-MW62A-50516_O	5/5/2016	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0026	1	0.5	1	0.0005	0
M-62A	CH-CCR-M62A-816_O	8/29/2016	0.8	0	0.0005	0	0.2	0	0.0002	0	0.0023	1	0.9	1	0.0005	0
M-62A	CH-CCR-M62A-916_O	9/21/2016	0.8	0	0.0001	0	0.2	0	0.0002	0	0.0022	1	2	1	0.00078	1
M-62A	CH-CCR-M62A-217_O	2/20/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0019	1	1.4	1	0.0005	0
M-62A	CH-CCR-M62A-41317_O	4/13/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0023	1	1.2	1	0.0005	0
M-62A	CH-CCR-M62A-42517_O	4/25/2017	0.8	0	0.0005	0	0.2	0	0.0002	0	0.0022	1	0.9	1	0.0005	0
M-62A	CH-CCR-M62A-51817_O	5/18/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.002	1	1.2	1	0.0005	0
M-62A	CH-CCR-M62A-52517_O	5/25/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0022	1	1.5	1	0.0005	0
M-62A	CH-CCR-M62A-70117_O	7/1/2017	0.4	0	0.0005	0	0.2	0	0.0002	0	0.0022	1	0.7	0	0.0005	0
M-62A	CH-CCR-M62A-72617_O	7/26/2017	0.4	0	0.001	0	0.2	0	0.0002	0	0.0021	1	1.3	1	0.001	0
M-62A	CH-CCR-M62A-90717_O	9/7/2017	0.4	0	0.002	0	0.2	0	0.0002	0	0.003	1	0.9	1	0.002	0
M-62A	CH-CCR-M62A-120817_O	12/8/2017	0.4	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-62A	CH-CCR-M-62A-52118_O	5/21/2018	0.4	0	0.001	0	0.2	0	0.0002	0	0.0024	1	0.7	1	0.001	0
M-62A	CH-CCR-M62A-082818_O	8/28/2018	NA	NA	NA	NA	NA	NA	NA	NA	0.0023	1	0.5	1	NA	NA
M-62A	CH-CCR-M62A-21519	2/15/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0024	1	NA	NA	NA	NA
M-62A	CH-CCR-M62A-112519	11/25/2019	0.4	0	NA	NA	NA	NA	NA	NA	0.0091	1	NA	NA	NA	NA
M-62A	CH-CCR-M62A-41819	4/18/2019	0.47	1	0.0005	0	0.2	0	0.0002	0	0.0026	1	0.8	1	0.0005	0
M-62A	CH-CCR-M62A-8919	8/9/2019	0.4	0	NA	NA	0.2	0	NA	NA	0.0028	1	NA	NA	NA	NA
M-62A	CH-CCR-M62-0420	4/16/2020	0.8	0	0.0025	0	1	0	0.0002	0	0.004	1	NA	NA	0.0025	0
M-62A	CH-CCR-M62-1020	10/20/2020	0.8	0	0.002	1	0.09	1	0.0002	0	0.015	1	0.8	0	0.001	0

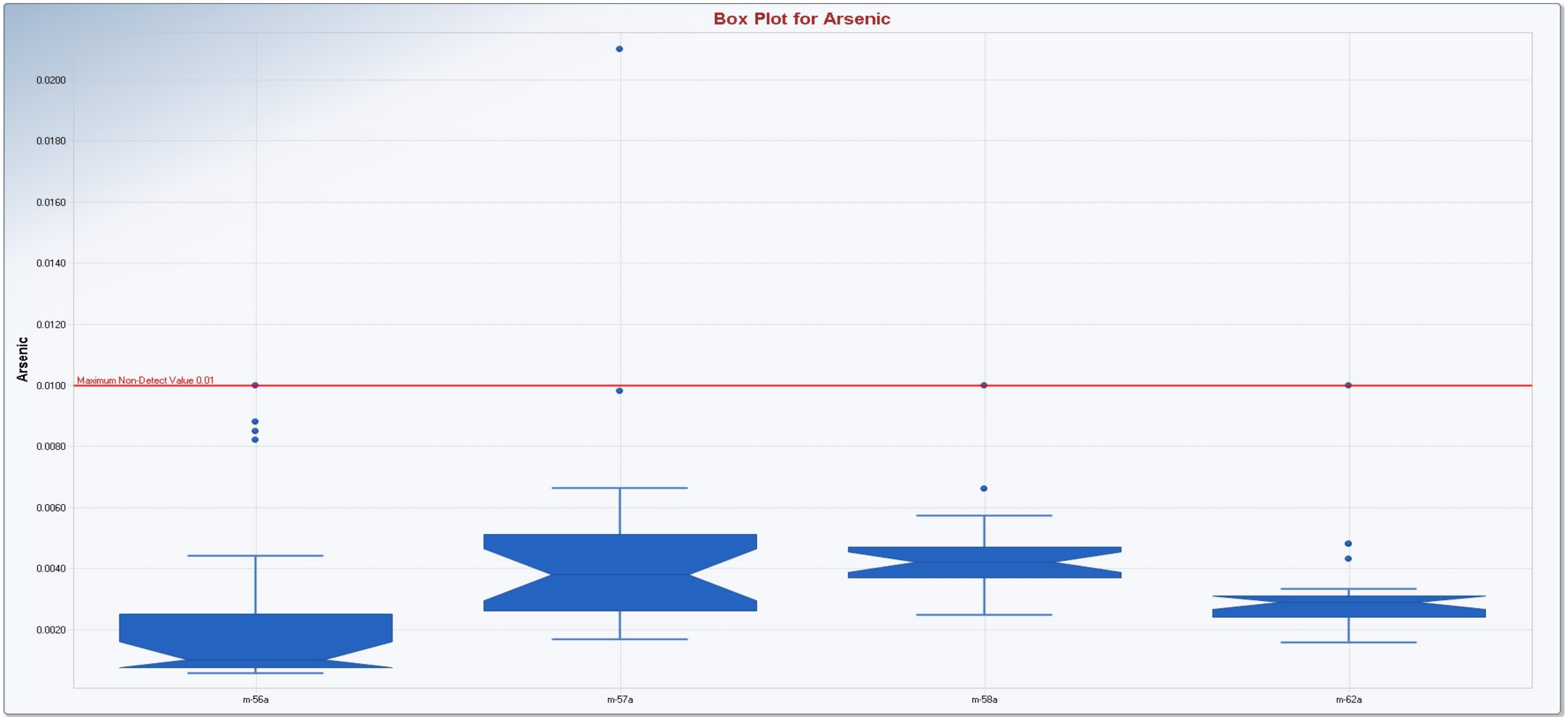
Station Name	QC_SampleID	Sample Date	Thallium	D_Thallium
M-58A	CH-CCR-M58A-21519	2/15/2019	0.0001	0
M-58A	CH-CCR-M58A-41719	4/17/2019	0.0001	0
M-58A	CH-CCR-M58A-8919	8/9/2019	0.0001	0
M-58A	CH-CCR-M58A-112519	11/25/2019	0.0001	0
M-58A	CH-CCR-M58-0420	4/16/2020	0.0005	0
M-58A	CH-CCR-M58-1020	10/21/2020	0.0002	0
M-62A	7872_O	11/30/2015	0.0001	0
M-62A	CH-M-62A-0316_O	3/8/2016	0.0005	1
M-62A	CH-CCR-MW62A-50516_O	5/5/2016	0.0001	0
M-62A	CH-CCR-M62A-816_O	8/29/2016	0.0001	0
M-62A	CH-CCR-M62A-916_O	9/21/2016	0.0001	0
M-62A	CH-CCR-M62A-217_O	2/20/2017	0.0001	0
M-62A	CH-CCR-M62A-41317_O	4/13/2017	0.0001	0
M-62A	CH-CCR-M62A-42517_O	4/25/2017	0.0001	0
M-62A	CH-CCR-M62A-51817_O	5/18/2017	0.0001	0
M-62A	CH-CCR-M62A-52517_O	5/25/2017	0.0001	0
M-62A	CH-CCR-M62A-70117_O	7/1/2017	0.0001	0
M-62A	CH-CCR-M62A-72617_O	7/26/2017	0.0002	0
M-62A	CH-CCR-M62A-90717_O	9/7/2017	0.0004	0
M-62A	CH-CCR-M62A-120817_O	12/8/2017	NA	NA
M-62A	CH-CCR-M-62A-52118_O	5/21/2018	0.0002	0
M-62A	CH-CCR-M62A-082818_O	8/28/2018	0.0001	0
M-62A	CH-CCR-M62A-21519	2/15/2019	0.0001	0
M-62A	CH-CCR-M62A-112519	11/25/2019	0.00016	1
M-62A	CH-CCR-M62A-41819	4/18/2019	0.0001	0
M-62A	CH-CCR-M62A-8919	8/9/2019	0.0001	0
M-62A	CH-CCR-M62-0420	4/16/2020	0.0005	0
M-62A	CH-CCR-M62-1020	10/20/2020	0.0002	0

APPENDIX B

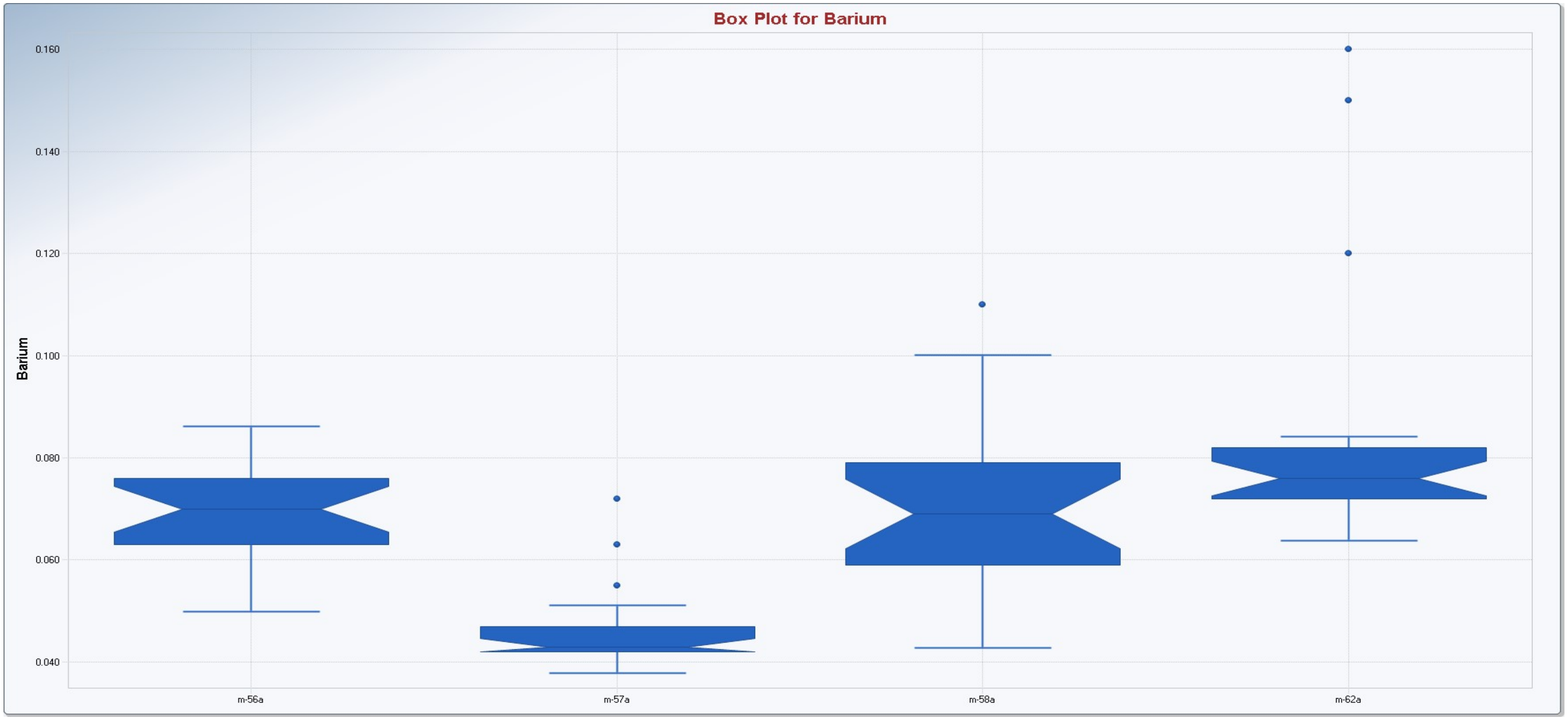
PROUCL EDA OUTPUT FILES

Appendix B
Box and Whisker Plots

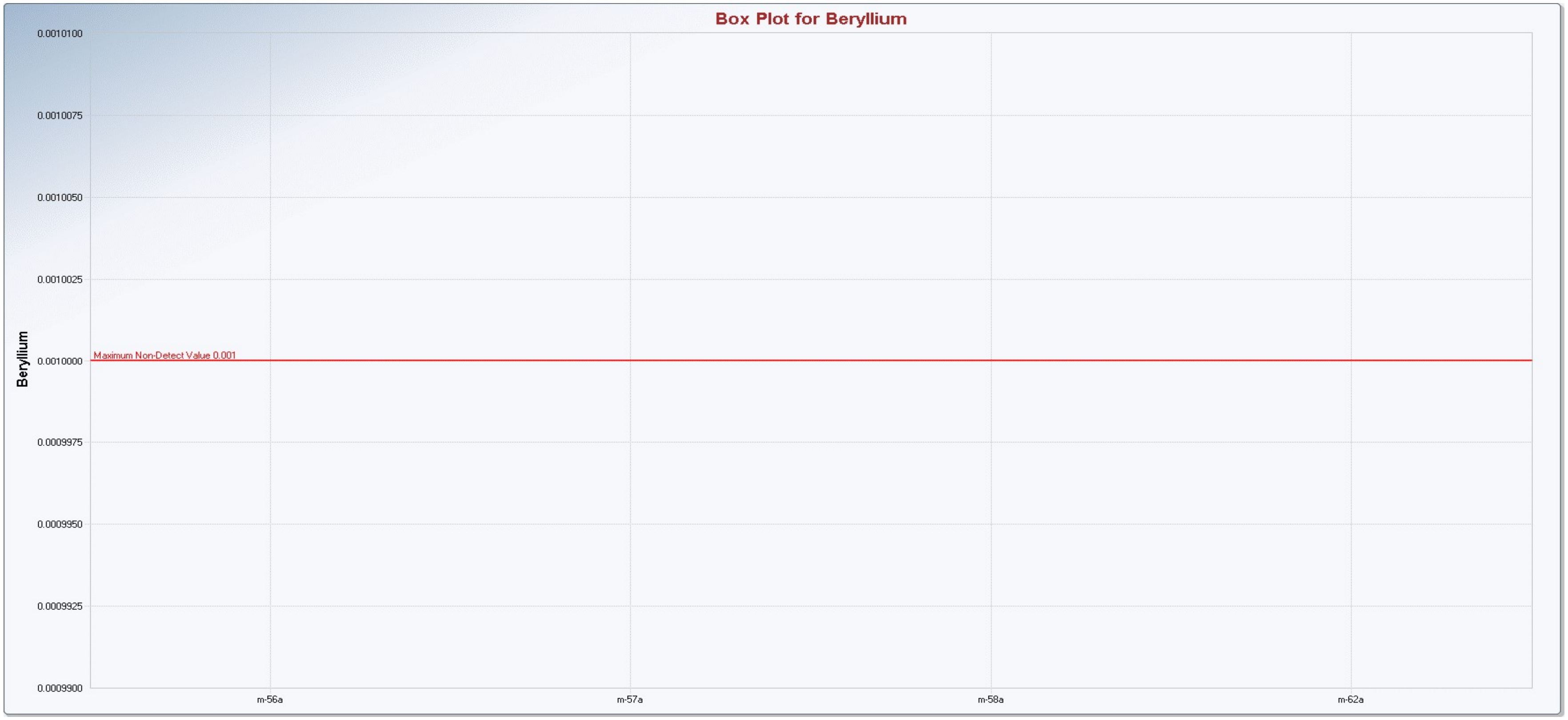
Appendix B
Box and Whisker Plots



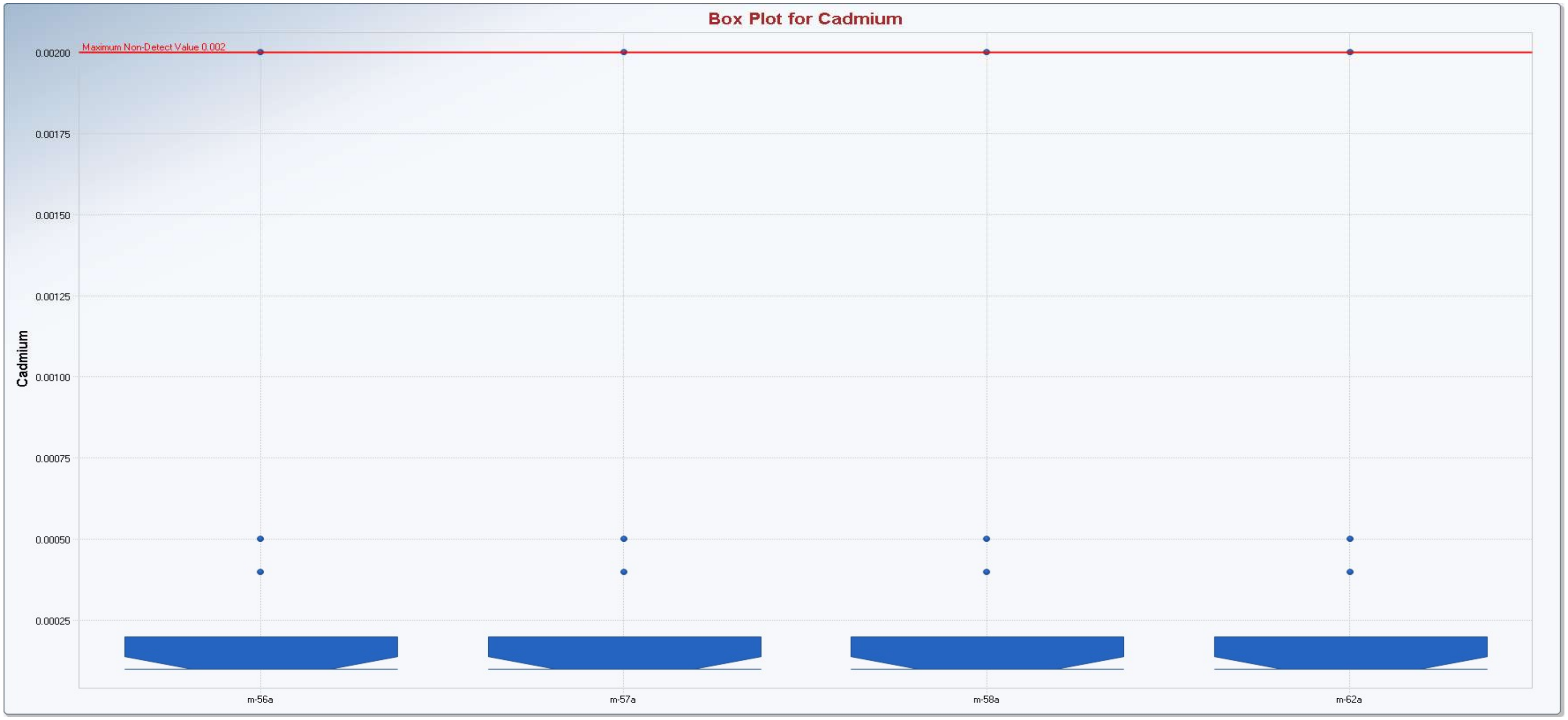
Appendix B
Box and Whisker Plots



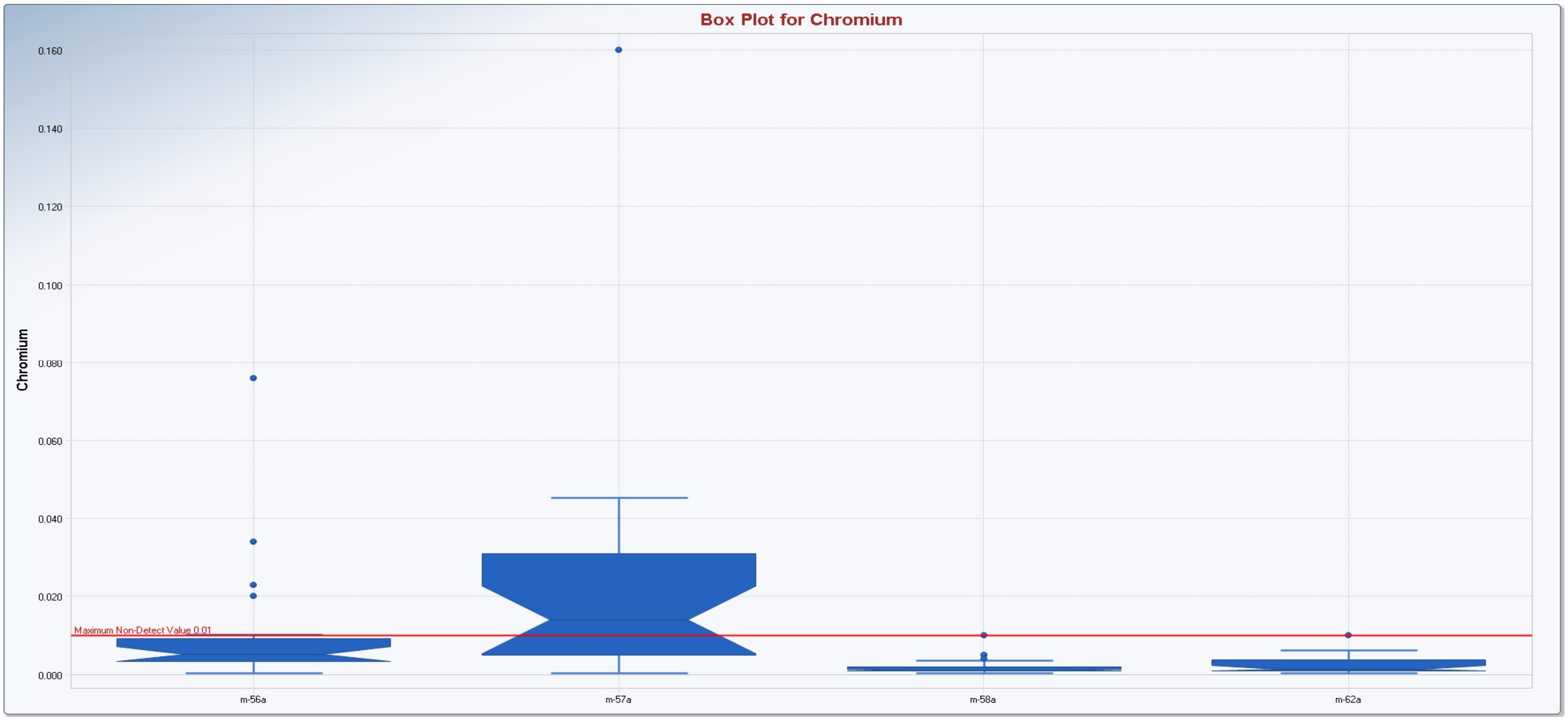
Appendix B
Box and Whisker Plots



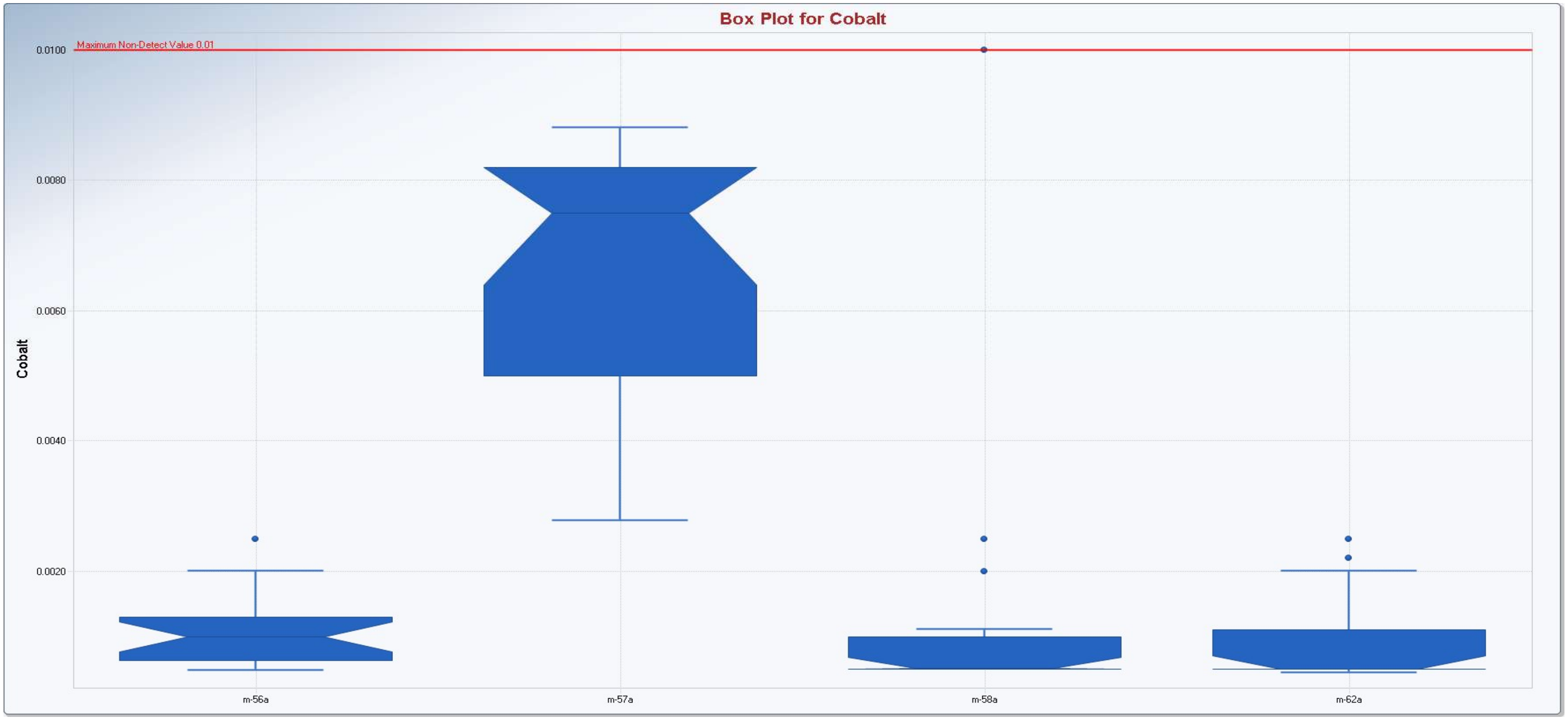
Appendix B
Box and Whisker Plots



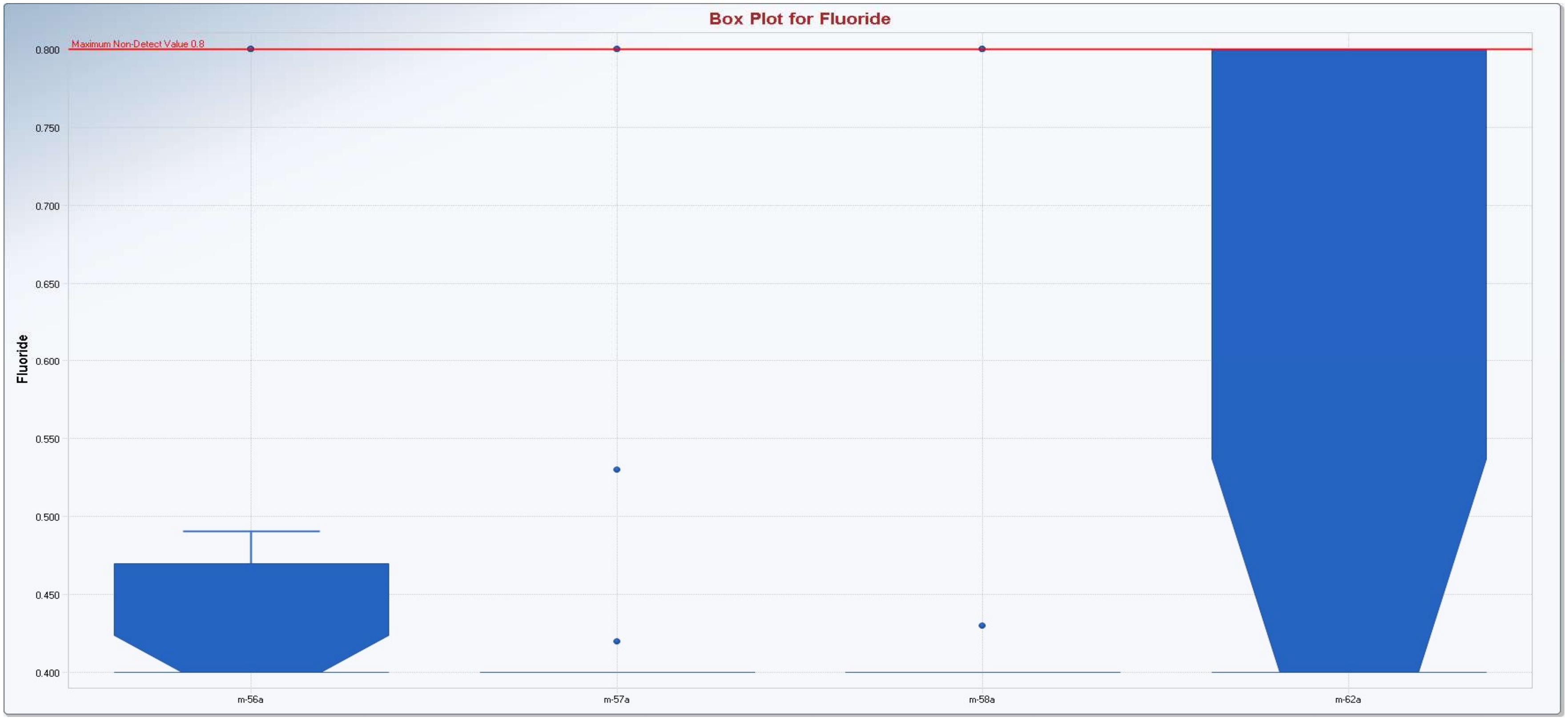
Appendix B
Box and Whisker Plots



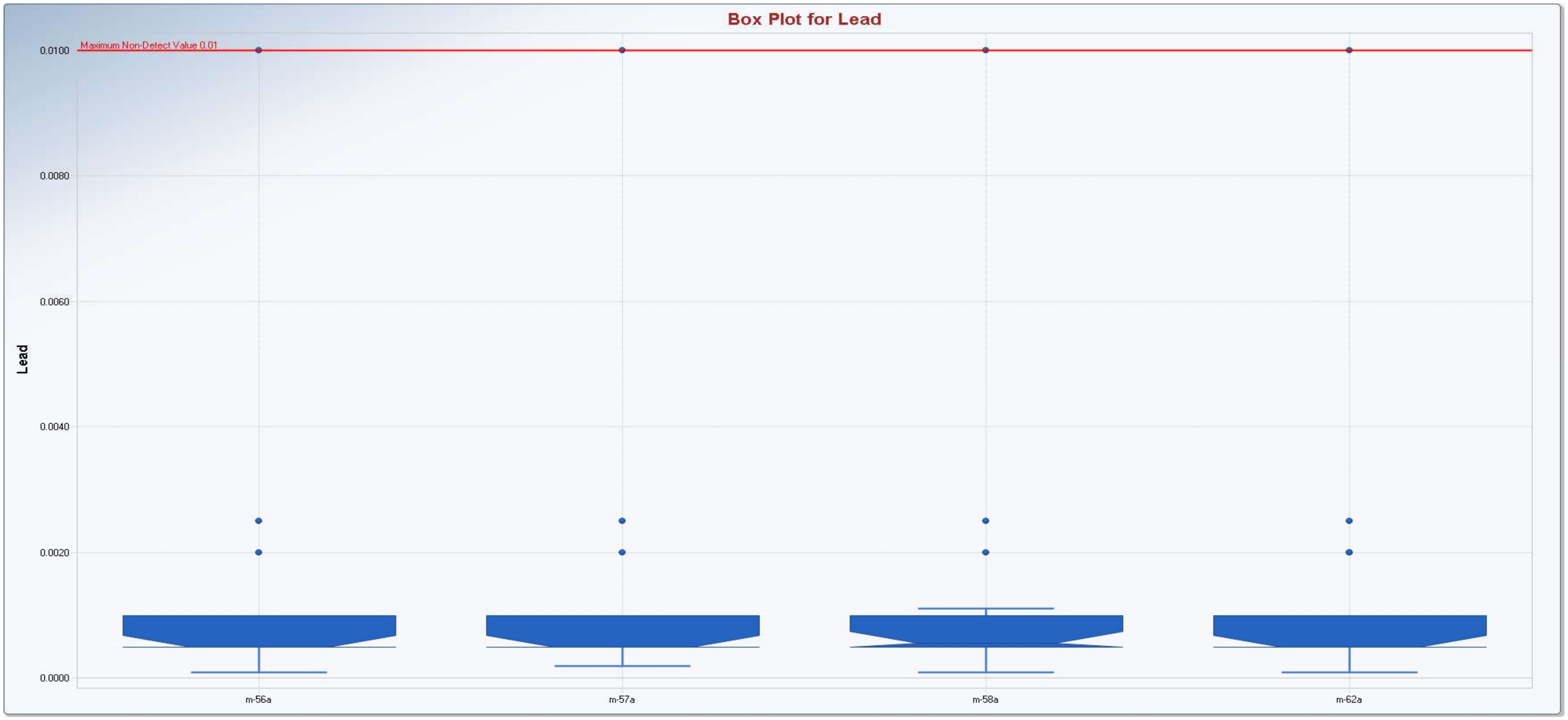
Appendix B
Box and Whisker Plots



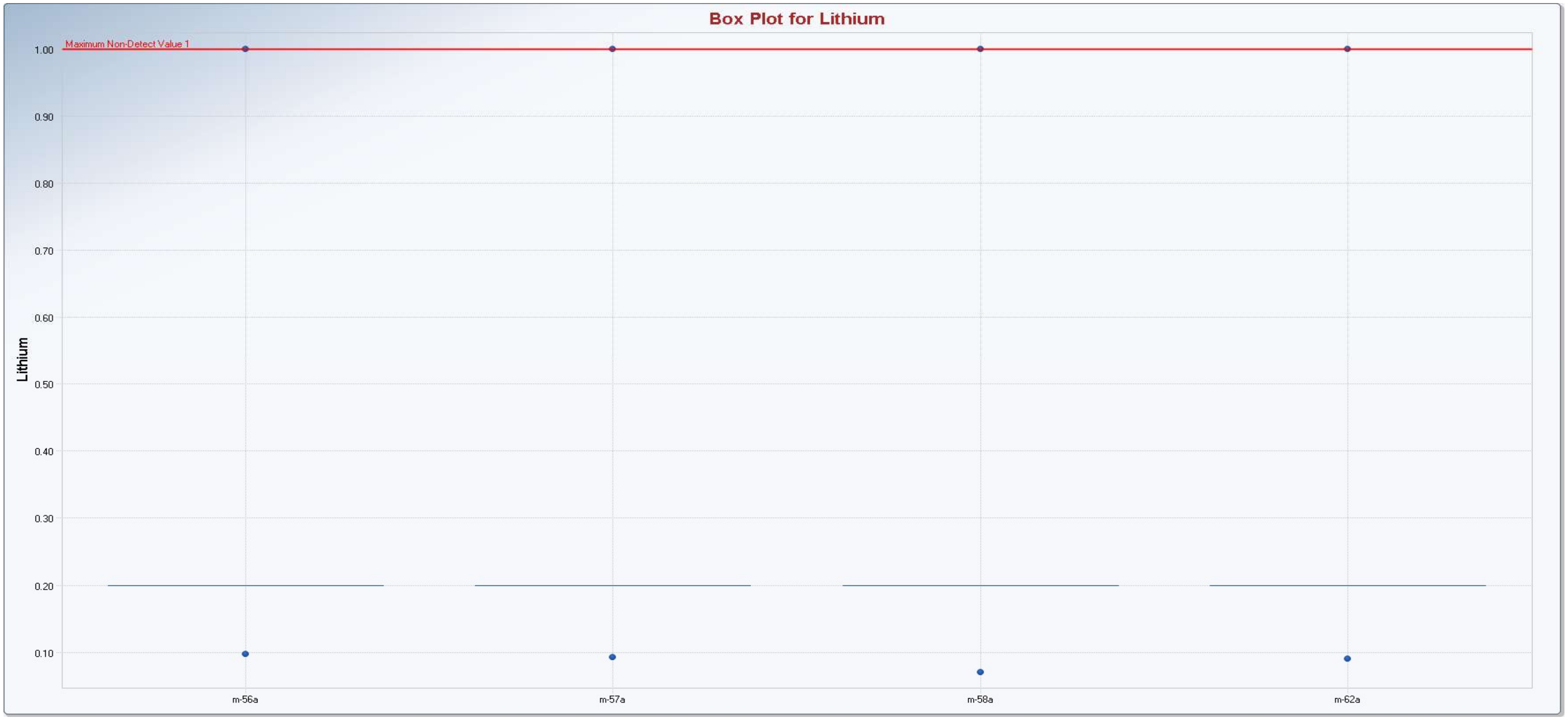
Appendix B
Box and Whisker Plots



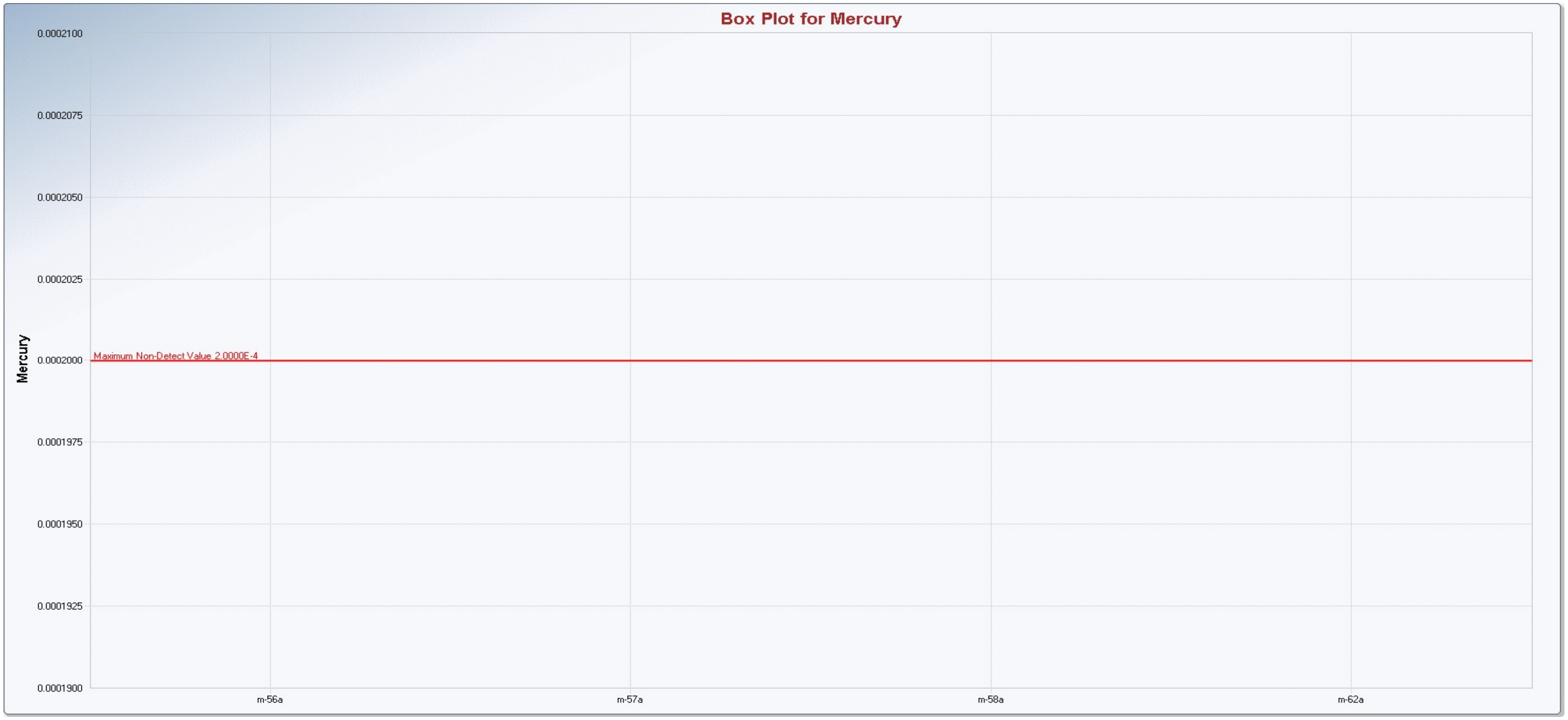
Appendix B
Box and Whisker Plots



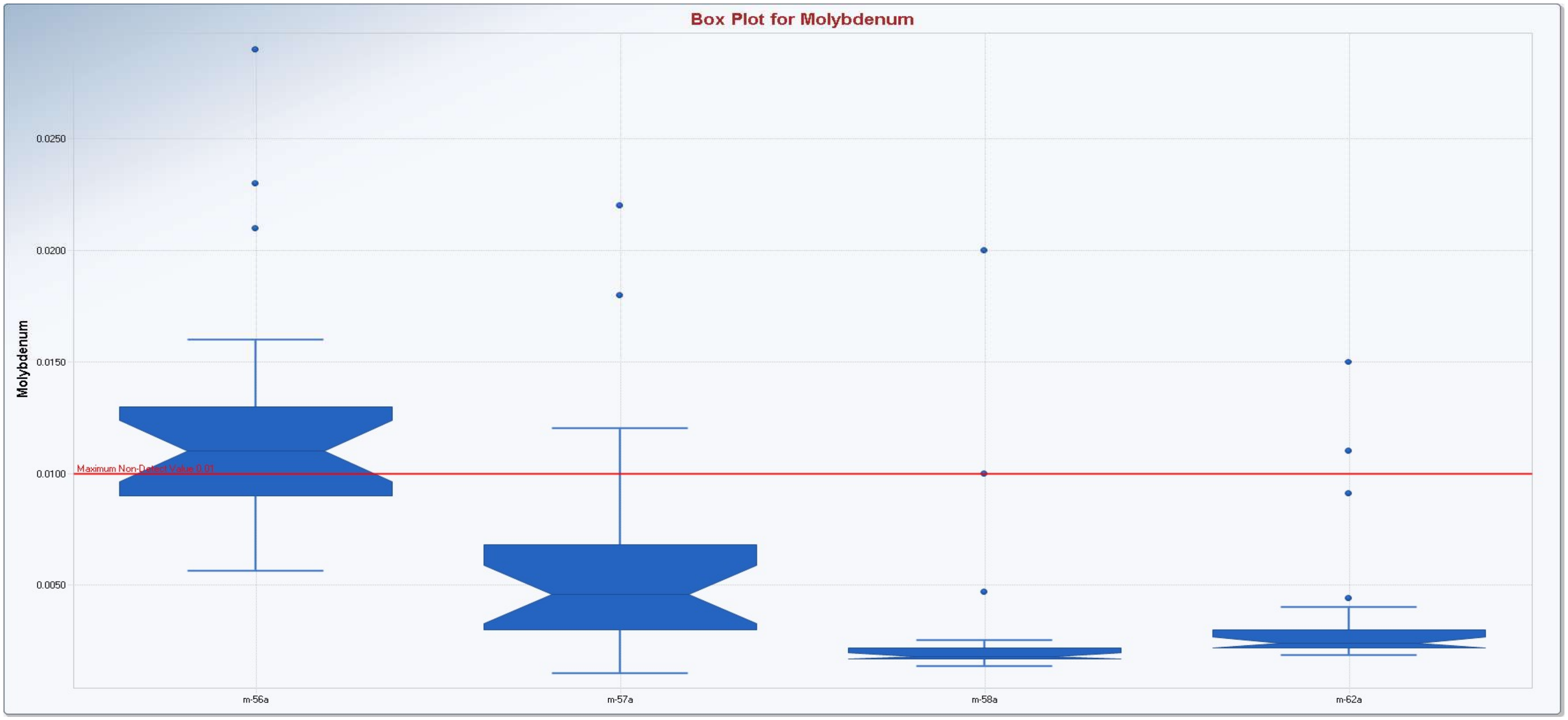
Appendix B
Box and Whisker Plots



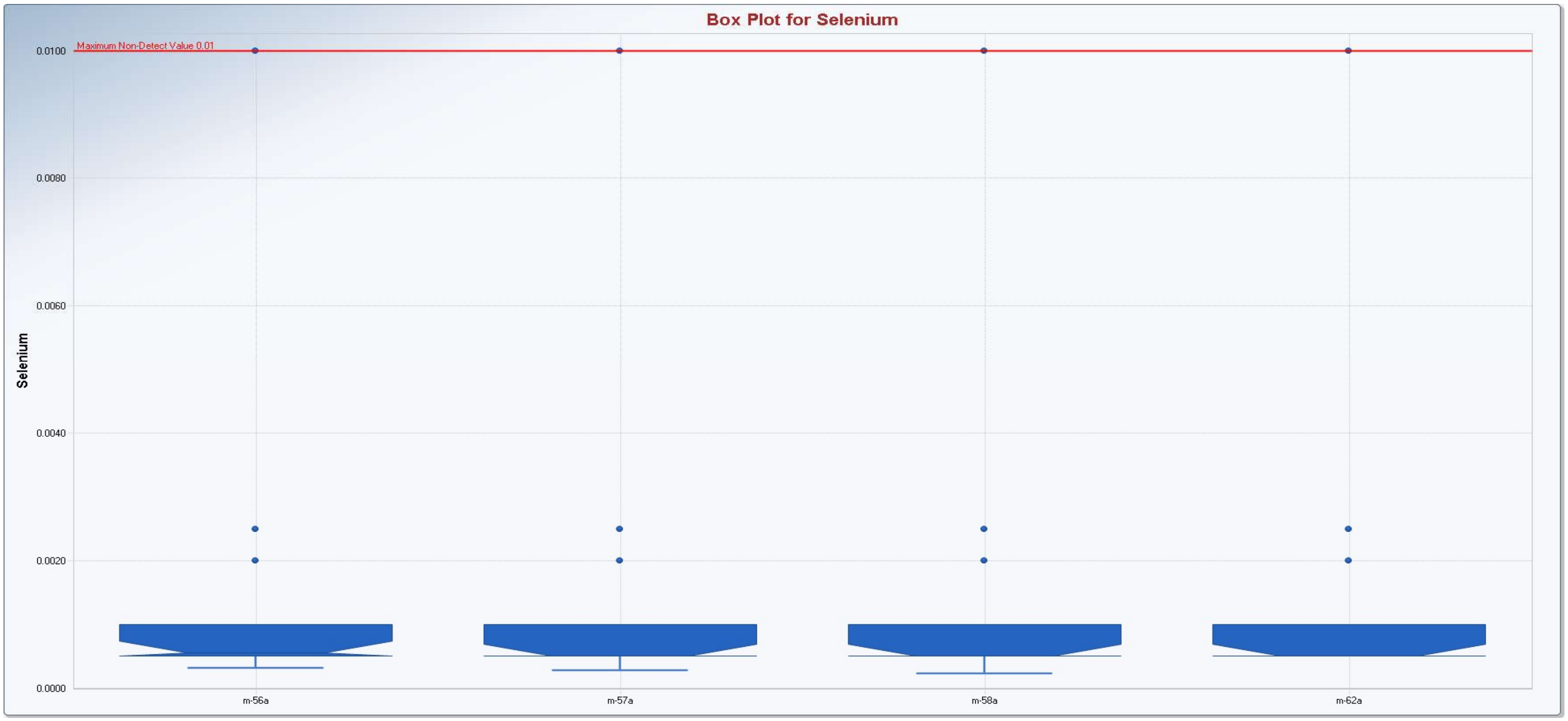
Appendix B
Box and Whisker Plots



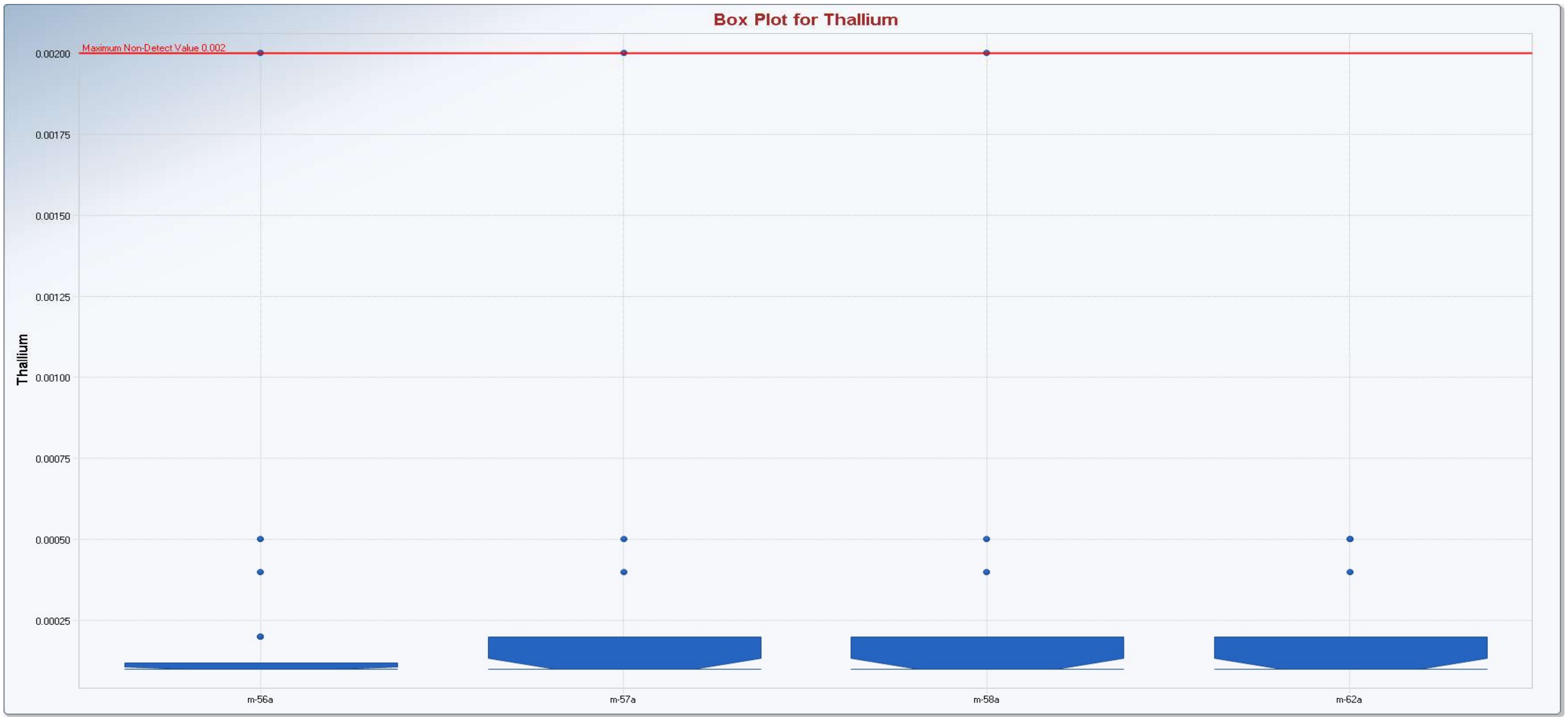
Appendix B
Box and Whisker Plots



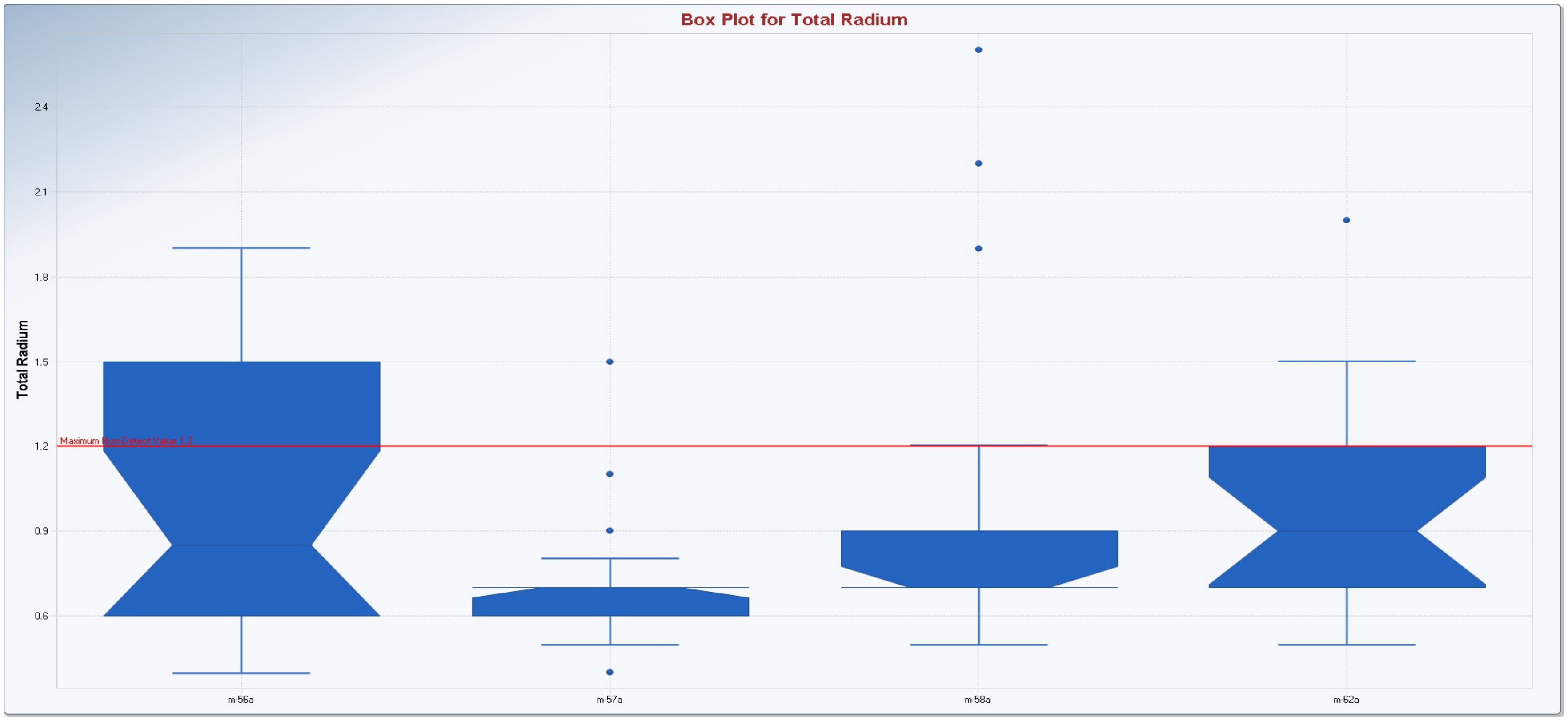
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2021 1:23:07 PM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_b.xls
Full Precision	OFF
Confidence Coefficient	0.95

Antimony (m-62a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-62a) was not processed!

Arsenic (m-62a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	20	1	4.76%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	1	0.01	0.01	0.01	0.01	N/A
Statistics (Non-Detects Only)	20	0.0016	0.0048	0.00292	0.0029	9.0045E-4
Statistics (All: NDs treated as DL value)	21	0.0016	0.01	0.00325	0.0029	0.00178
Statistics (All: NDs treated as DL/2 value)	21	0.0016	0.005	0.00301	0.0029	9.8858E-4
Statistics (Normal ROS Imputed Data)	21	0.0016	0.0048	0.00292	0.0029	8.7765E-4
Statistics (Gamma ROS Imputed Data)	21	0.0016	0.01	0.00325	0.0029	0.00178
Statistics (Lognormal ROS Imputed Data)	21	0.0016	0.0048	0.00291	0.0029	8.7808E-4

	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	11.48	9.789	2.5397E-4	-5.882	0.306	-0.0519
Statistics (NDs = DL)	5.543	4.783	5.8675E-4	-5.821	0.408	-0.0701
Statistics (NDs = DL/2)	10.19	8.763	2.9593E-4	-5.854	0.324	-0.0553
Statistics (Gamma ROS Estimates)	5.543	4.783	5.8675E-4	-5.821	0.408	-0.0701
Statistics (Lognormal ROS Estimates)	--	--	--	-5.882	0.298	-0.0506

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.952	0.805	0.953	0.948				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.902	0.905	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.672	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.9	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.896	0.908	Data Not Normal					
Lilliefors (Detects Only)	0.219	0.192	Data Not Normal					
Lilliefors (NDs = DL)	0.299	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.227	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.226	0.188	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.964	0.879	0.965	0.879				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.587	0.742						
Kolmogorov-Smirnov (Detects Only)	0.179	0.194	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.084	0.745						
Kolmogorov-Smirnov (NDs = DL)	0.25	0.19	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.614	0.743						
Kolmogorov-Smirnov (NDs = DL/2)	0.185	0.189	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	1.084	0.745						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.25	0.19	Data Not Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.972	0.94	0.974	0.97				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.94	0.905	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.896	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.941	0.908	Data Appear Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro-Wilk (Lognormal ROS Estimates)	0.937	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.165	0.192	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.218	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.167	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.171	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Barium (m-62a)								
Raw Statistics								
Number of Valid Observations		21						
Number of Missing Observations		1						
Number of Distinct Observations		15						
Minimum		0.064						
Maximum		0.16						
Mean of Raw Data		0.0846						
Standard Deviation of Raw Data		0.026						
Khat		15.11						
Theta hat		0.0056						
Kstar		12.98						
Theta star		0.00652						
Mean of Log Transformed Data		-2.504						
Standard Deviation of Log Transformed Data		0.246						
Normal GOF Test Results								
Correlation Coefficient R		0.788						
Shapiro Wilk Test Statistic		0.629						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		9.3222E-7						
Lilliefors Test Statistic		0.366						
Lilliefors Critical (0.05) Value		0.188						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.841						
A-D Test Statistic		2.812						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
A-D Critical (0.05) Value		0.743						
K-S Test Statistic		0.333						
K-S Critical(0.05) Value		0.189						
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.84						
Shapiro Wilk Test Statistic		0.711						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		1.3815E-5						
Lilliefors Test Statistic		0.314						
Lilliefors Critical (0.05) Value		0.188						
Data not Lognormal at (0.05) Significance Level								
Non-parametric GOF Test Results								
Data do not follow a discernible distribution at (0.05) Level of Significance								
Beryllium (m-62a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	0	17	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Beryllium (m-62a) was not processed!								
Cadmium (m-62a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	0	17	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).						
The data set for variable Cadmium (m-62a) was not processed!						
Chromium (m-62a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	13	8	38.10%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	8	5.0000E-4	0.01	0.00256	0.001	0.0032
Statistics (Non-Detects Only)	13	6.3000E-4	0.0059	0.00234	0.0015	0.00183
Statistics (All: NDs treated as DL value)	21	5.0000E-4	0.01	0.00242	0.0014	0.00237
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.0059	0.00193	0.0011	0.00178
Statistics (Normal ROS Imputed Data)	21	-0.00193	0.0059	0.00152	0.00108	0.00191
Statistics (Gamma ROS Imputed Data)	21	6.3000E-4	0.01	0.00526	0.0044	0.00407
Statistics (Lognormal ROS Imputed Data)	21	2.7787E-4	0.0059	0.00174	0.00103	0.00163
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	2.011	1.598	0.00116	-6.328	0.753	-0.119
Statistics (NDs = DL)	1.574	1.381	0.00154	-6.373	0.817	-0.128
Statistics (NDs = DL/2)	1.428	1.256	0.00135	-6.637	0.91	-0.137
Statistics (Gamma ROS Estimates)	1.323	1.166	0.00397	-5.672	1.037	-0.183
Statistics (Lognormal ROS Estimates)	--	--	--	-6.686	0.809	-0.121
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.911	0.856	0.896	0.942		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.817	0.866	Data Not Normal			
Shapiro-Wilk (NDs = DL)	0.741	0.908	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.795	0.908	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.894	0.908	Data Not Normal			
Lilliefors (Detects Only)	0.265	0.234	Data Not Normal			
Lilliefors (NDs = DL)	0.285	0.188	Data Not Normal			

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Lilliefors (NDs = DL/2)	0.247	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.223	0.188	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.965	0.972	0.964	0.832				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.642	0.743						
Kolmogorov-Smirnov (Detects Only)	0.189	0.239	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.134	0.758						
Kolmogorov-Smirnov (NDs = DL)	0.2	0.193	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.741	0.76						
Kolmogorov-Smirnov (NDs = DL/2)	0.151	0.193	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	1.427	0.762						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.247	0.194	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.97	0.964	0.979	0.975				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.922	0.866	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.924	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.949	0.908	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.947	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.141	0.234	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.181	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.111	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.133	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Cobalt (m-62a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	6	15	71.43%		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	15	5.0000E-4	0.0025	8.0000E-4	5.0000E-4	6.2106E-4		
Statistics (Non-Detects Only)	6	4.6000E-4	0.0022	0.00112	0.00115	6.2475E-4		
Statistics (All: NDs treated as DL value)	21	4.6000E-4	0.0025	8.9048E-4	5.0000E-4	6.2375E-4		
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.0022	6.0476E-4	2.5000E-4	5.2453E-4		
Statistics (Normal ROS Imputed Data)	21	-7.002E-4	0.0022	4.4127E-4	4.2110E-4	6.3572E-4		
Statistics (Gamma ROS Imputed Data)	21	4.6000E-4	0.01	0.00746	0.01	0.00412		
Statistics (Lognormal ROS Imputed Data)	21	1.6901E-4	0.0022	6.1788E-4	4.8776E-4	4.6573E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	3.879	2.051	2.8787E-4	-6.932	0.579	-0.0835		
Statistics (NDs = DL)	2.976	2.583	2.9920E-4	-7.201	0.569	-0.079		
Statistics (NDs = DL/2)	1.901	1.661	3.1811E-4	-7.696	0.734	-0.0954		
Statistics (Gamma ROS Estimates)	1.489	1.308	0.00501	-5.27	1.115	-0.212		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.584	0.608	-0.0801		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.935	0.835	0.847	0.966				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.883	0.788	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.695	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.722	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.945	0.908	Data Appear Normal					
Lilliefors (Detects Only)	0.28	0.325	Data Appear Normal					
Lilliefors (NDs = DL)	0.332	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.274	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.153	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.962	0.93	0.953	0.597				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.386	0.7						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Kolmogorov-Smirnov (Detects Only)	0.223	0.334	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	2.551	0.75						
Kolmogorov-Smirnov (NDs = DL)	0.343	0.191	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.108	0.755						
Kolmogorov-Smirnov (NDs = DL/2)	0.313	0.192	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	4.212	0.758						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.455	0.193	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.957	0.869	0.891	0.975				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.914	0.788	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.746	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.782	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.957	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.248	0.325	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.334	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.316	0.188	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.172	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Fluoride (m-62a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	1	20	95.24%		
Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!								
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Fluoride (m-62a) was not processed!								
Lead (m-62a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	1	16	94.12%		

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lead (m-62a) was not processed!

Lithium (m-62a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	4	18	1	17	94.44%		

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lithium (m-62a) was not processed!

Mercury (m-62a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	0	17	100.00%		

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-62a) was not processed!

Molybdenum (m-62a)

Raw Statistics

Number of Valid Observations	21

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Number of Missing Observations		1						
Number of Distinct Observations		14						
Minimum		0.0019						
Maximum		0.015						
Mean of Raw Data		0.00386						
Standard Deviation of Raw Data		0.00347						
Khat		2.413						
Theta hat		0.0016						
Kstar		2.1						
Theta star		0.00184						
Mean of Log Transformed Data		-5.779						
Standard Deviation of Log Transformed Data		0.59						
Normal GOF Test Results								
Correlation Coefficient R		0.75						
Shapiro Wilk Test Statistic		0.573						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		1.7112E-7						
Lilliefors Test Statistic		0.359						
Lilliefors Critical (0.05) Value		0.188						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.887						
A-D Test Statistic		3.175						
A-D Critical (0.05) Value		0.752						
K-S Test Statistic		0.323						
K-S Critical(0.05) Value		0.191						
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.839						
Shapiro Wilk Test Statistic		0.707						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		1.2061E-5						
Lilliefors Test Statistic		0.282						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Lilliefors Critical (0.05) Value		0.188						
Data not Lognormal at (0.05) Significance Level								
Non-parametric GOF Test Results								
Data do not follow a discernible distribution at (0.05) Level of Significance								
Total Radium (m-62a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	14	3	17.65%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	3	0.7	0.8	0.733	0.7	0.0577		
Statistics (Non-Detects Only)	14	0.5	2	1.057	0.95	0.411		
Statistics (All: NDs treated as DL value)	17	0.5	2	1	0.9	0.392		
Statistics (All: NDs treated as DL/2 value)	17	0.35	2	0.935	0.9	0.459		
Statistics (Normal ROS Imputed Data)	17	0.3	2	0.947	0.9	0.446		
Statistics (Gamma ROS Imputed Data)	17	0.383	2	0.955	0.9	0.436		
Statistics (Lognormal ROS Imputed Data)	17	0.464	2	0.965	0.9	0.424		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	7.176	5.686	0.147	-0.0157	0.398	-25.33		
Statistics (NDs = DL)	7.512	6.226	0.133	-0.068	0.378	-5.561		
Statistics (NDs = DL/2)	4.209	3.506	0.222	-0.19	0.53	-2.784		
Statistics (Gamma ROS Estimates)	5.214	4.333	0.183	-0.145	0.465	-3.204		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.125	0.436	-3.485		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.973	0.958	0.975	0.974				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.949	0.874	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.92	0.892	Data Appear Normal					
Shapiro-Wilk (NDs = DL/2)	0.945	0.892	Data Appear Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.949	0.892	Data Appear Normal					
Lilliefors (Detects Only)	0.149	0.226	Data Appear Normal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Lilliefors (NDs = DL)	0.189	0.207	Data Appear Normal			
Lilliefors (NDs = DL/2)	0.123	0.207	Data Appear Normal			
Lilliefors (Normal ROS Estimates)	0.13	0.207	Data Appear Normal			
Gamma GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.99	0.986	0.989	0.99		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	0.212	0.736				
Kolmogorov-Smirnov (Detects Only)	0.115	0.229	Detected Data Appear Gamma Distributed			
Anderson-Darling (NDs = DL)	0.28	0.74				
Kolmogorov-Smirnov (NDs = DL)	0.152	0.209	Data Appear Gamma Distributed			
Anderson-Darling (NDs = DL/2)	0.306	0.743				
Kolmogorov-Smirnov (NDs = DL/2)	0.134	0.21	Data Appear Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	0.29	0.741				
Kolmogorov-Smirnov (Gamma ROS Est.)	0.149	0.21	Data Appear Gamma Distributed			
Lognormal GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	0.984	0.987	0.978	0.983		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.964	0.874	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.97	0.892	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.944	0.892	Data Appear Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.955	0.892	Data Appear Lognormal			
Lilliefors (Detects Only)	0.125	0.226	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.128	0.207	Data Appear Lognormal			
Lilliefors (NDs = DL/2)	0.152	0.207	Data Appear Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.134	0.207	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Selenium (m-62a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Raw Statistics	22	5	17	2	15	88.24%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	15	5.0000E-4	0.01	0.00147	5.0000E-4	0.00244		
Statistics (Non-Detects Only)	2	7.1000E-4	7.8000E-4	7.4500E-4	7.4500E-4	4.9497E-5		
Statistics (All: NDs treated as DL value)	17	5.0000E-4	0.01	0.00138	5.0000E-4	0.00229		
Statistics (All: NDs treated as DL/2 value)	17	2.5000E-4	0.005	7.3471E-4	2.5000E-4	0.00114		
Statistics (Normal ROS Imputed Data)	17	2.3901E-4	7.8000E-4	4.9694E-4	4.9510E-4	1.3708E-4		
Statistics (Gamma ROS Imputed Data)	17	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Imputed Data)	17	3.7713E-4	7.8000E-4	5.4197E-4	5.3197E-4	1.0220E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	1.148	0.985	0.0012	-7.079	0.815	-0.115		
Statistics (NDs = DL/2)	1.192	1.021	6.1643E-4	-7.691	0.834	-0.108		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.536	0.184	-0.0244		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.633	0.66	0.986				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.43	0.892	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.464	0.892	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.977	0.892	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.39	0.207	Data Not Normal					
Lilliefors (NDs = DL/2)	0.335	0.207	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.152	0.207	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.84	0.855	0.454				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Kolmogorov-Smirnov (Detects Only)	N/A	N/A				
Anderson-Darling (NDs = DL)	2.586	0.763				
Kolmogorov-Smirnov (NDs = DL)	0.326	0.214	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	2.033	0.762				
Kolmogorov-Smirnov (NDs = DL/2)	0.278	0.214	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	N/A	0.736				
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.208				
Lognormal GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	1	0.832	0.868	N/A		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (NDs = DL)	0.703	0.892	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.758	0.892	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.977	0.892	Data Appear Lognormal			
Lilliefors (Detects Only)	N/A	N/A				
Lilliefors (NDs = DL)	0.268	0.207	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.295	0.207	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.152	0.207	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Thallium (m-62a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	2	19	90.48%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	19	1.0000E-4	5.0000E-4	1.5263E-4	1.0000E-4	1.1239E-4
Statistics (Non-Detects Only)	2	1.6000E-4	5.0000E-4	3.3000E-4	3.3000E-4	2.4042E-4
Statistics (All: NDs treated as DL value)	21	1.0000E-4	5.0000E-4	1.6952E-4	1.0000E-4	1.3079E-4
Statistics (All: NDs treated as DL/2 value)	21	5.0000E-5	5.0000E-4	1.0048E-4	5.0000E-5	1.0749E-4
Statistics (Normal ROS Imputed Data)	21	-0.00161	5.0000E-4	-6.658E-4	-7.141E-4	5.0478E-4
Statistics (Gamma ROS Imputed Data)	21	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Imputed Data)	21	4.2822E-7	5.0000E-4	4.4236E-5	8.5477E-6	1.1031E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	2.828	2.455	5.9953E-5	-8.87	0.562	-0.0634		
Statistics (NDs = DL/2)	1.867	1.632	5.3831E-5	-9.497	0.676	-0.0712		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-11.51	1.692	-0.147		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.769	0.728	0.99				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.591	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.548	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.984	0.908	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.369	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.347	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.11	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.883	0.892	0.396				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	3.508	0.75						
Kolmogorov-Smirnov (NDs = DL)	0.395	0.191	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	3.28	0.755						
Kolmogorov-Smirnov (NDs = DL/2)	0.391	0.192	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.74						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.189						
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	1	0.812	0.819	N/A				

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.653	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.673	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.984	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.394	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.393	0.188	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.11	0.188	Data Appear Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

Antimony (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	1	16	94.12%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-56a) was not processed!

Antimony (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	6	17	1	16	94.12%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-57a) was not processed!

Antimony (m-58a)

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-58a) was not processed!

Arsenic (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	17	4	19.05%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	4	0.001	0.01	0.00388	0.00225	0.00413
Statistics (Non-Detects Only)	17	6.0000E-4	0.0088	0.00245	8.3000E-4	0.00302
Statistics (All: NDs treated as DL value)	21	6.0000E-4	0.01	0.00273	0.001	0.00319
Statistics (All: NDs treated as DL/2 value)	21	5.0000E-4	0.0088	0.00236	9.3000E-4	0.00283
Statistics (Normal ROS Imputed Data)	21	6.0000E-4	0.0088	0.00229	9.9571E-4	0.00273
Statistics (Gamma ROS Imputed Data)	21	6.0000E-4	0.01	0.00389	0.0011	0.00406
Statistics (Lognormal ROS Imputed Data)	21	6.0000E-4	0.0088	0.00219	9.3000E-4	0.00276
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	1.051	0.905	0.00233	-6.556	0.978	-0.149
Statistics (NDs = DL)	1.077	0.955	0.00253	-6.436	0.984	-0.153
Statistics (NDs = DL/2)	1.103	0.977	0.00214	-6.568	0.952	-0.145
Statistics (Gamma ROS Estimates)	0.918	0.819	0.00424	-6.184	1.176	-0.19
Statistics (Lognormal ROS Estimates)	--	--	--	-6.614	0.887	-0.134

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.794	0.822	0.806	0.789
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)	

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro-Wilk (Detects Only)	0.624	0.892	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.67	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.645	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.621	0.908	Data Not Normal					
Lilliefors (Detects Only)	0.355	0.207	Data Not Normal					
Lilliefors (NDs = DL)	0.304	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.36	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.319	0.188	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.915	0.934	0.929	0.866				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	2.303	0.765						
Kolmogorov-Smirnov (Detects Only)	0.304	0.215	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	2.135	0.768						
Kolmogorov-Smirnov (NDs = DL)	0.255	0.195	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.423	0.767						
Kolmogorov-Smirnov (NDs = DL/2)	0.307	0.194	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	2.291	0.774						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.269	0.196	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.877	0.911	0.902	0.869				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.755	0.892	Data Not Lognormal					
Shapiro-Wilk (NDs = DL)	0.816	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.803	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.747	0.908	Data Not Lognormal					
Lilliefors (Detects Only)	0.256	0.207	Data Not Lognormal					
Lilliefors (NDs = DL)	0.22	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.246	0.188	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.271	0.188	Data Not Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Note: Substitution methods such as DL or DL/2 are not recommended.								
Arsenic (m-57a)								
Raw Statistics								
Number of Valid Observations		21						
Number of Missing Observations		2						
Number of Distinct Observations		17						
Minimum		0.0017						
Maximum		0.021						
Mean of Raw Data		0.00477						
Standard Deviation of Raw Data		0.00423						
Khat		2.455						
Theta hat		0.00194						
Kstar		2.136						
Theta star		0.00223						
Mean of Log Transformed Data		-5.563						
Standard Deviation of Log Transformed Data		0.614						
Normal GOF Test Results								
Correlation Coefficient R		0.783						
Shapiro Wilk Test Statistic		0.635						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		1.1208E-6						
Lilliefors Test Statistic		0.237						
Lilliefors Critical (0.05) Value		0.188						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.901						
A-D Test Statistic		0.864						
A-D Critical (0.05) Value		0.752						
K-S Test Statistic		0.158						
K-S Critical(0.05) Value		0.191						
Data follow Appr. Gamma Distribution at (0.05) Significance Level								
Lognormal GOF Test Results								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Correlation Coefficient R	0.96					
Shapiro Wilk Test Statistic	0.926					
Shapiro Wilk Critical (0.05) Value	0.908					
Approximate Shapiro Wilk P Value	0.111					
Lilliefors Test Statistic	0.145					
Lilliefors Critical (0.05) Value	0.188					
Data appear Lognormal at (0.05) Significance Level						
Arsenic (m-58a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	20	1	4.76%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	1	0.01	0.01	0.01	0.01	N/A
Statistics (Non-Detects Only)	20	0.0025	0.0066	0.00416	0.0041	9.7628E-4
Statistics (All: NDs treated as DL value)	21	0.0025	0.01	0.00443	0.0042	0.00159
Statistics (All: NDs treated as DL/2 value)	21	0.0025	0.0066	0.0042	0.0042	9.6927E-4
Statistics (Normal ROS Imputed Data)	21	0.0025	0.0066	0.00416	0.00416	9.5156E-4
Statistics (Gamma ROS Imputed Data)	21	0.0025	0.01	0.00443	0.0042	0.00159
Statistics (Lognormal ROS Imputed Data)	21	0.0025	0.0066	0.00415	0.00405	9.5185E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	19.28	16.42	2.1551E-4	-5.51	0.236	-0.0429
Statistics (NDs = DL)	10.6	9.114	4.1840E-4	-5.467	0.303	-0.0555
Statistics (NDs = DL/2)	19.59	16.83	2.1410E-4	-5.5	0.235	-0.0427
Statistics (Gamma ROS Estimates)	10.6	9.114	4.1840E-4	-5.467	0.303	-0.0555
Statistics (Lognormal ROS Estimates)	--	--	--	-5.51	0.23	-0.0418
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.979	0.876	0.984	0.976		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.965	0.905	Data Appear Normal			
Shapiro-Wilk (NDs = DL)	0.788	0.908	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.973	0.908	Data Appear Normal			

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro-Wilk (Normal ROS Estimates)	0.96	0.908	Data Appear Normal					
Lilliefors (Detects Only)	0.121	0.192	Data Appear Normal					
Lilliefors (NDs = DL)	0.218	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.114	0.188	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.126	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.988	0.921	0.99	0.921				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.235	0.741						
Kolmogorov-Smirnov (Detects Only)	0.136	0.194	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.676	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.167	0.189	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.212	0.743						
Kolmogorov-Smirnov (NDs = DL/2)	0.129	0.189	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.676	0.743						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.167	0.189	Data Appear Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.987	0.959	0.987	0.984				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.977	0.905	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.934	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.977	0.908	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.973	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.152	0.192	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.147	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.145	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.158	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Barium (m-56a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Raw Statistics								
Number of Valid Observations		21						
Number of Missing Observations		1						
Number of Distinct Observations		20						
Minimum		0.05						
Maximum		0.086						
Mean of Raw Data		0.0693						
Standard Deviation of Raw Data		0.0101						
Khat		47.54						
Theta hat		0.00146						
Kstar		40.78						
Theta star		0.0017						
Mean of Log Transformed Data		-2.68						
Standard Deviation of Log Transformed Data		0.151						
Normal GOF Test Results								
Correlation Coefficient R		0.993						
Shapiro Wilk Test Statistic		0.977						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.856						
Lilliefors Test Statistic		0.0675						
Lilliefors Critical (0.05) Value		0.188						
Data appear Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.986						
A-D Test Statistic		0.206						
A-D Critical (0.05) Value		0.741						
K-S Test Statistic		0.0739						
K-S Critical(0.05) Value		0.189						
Data appear Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.985						
Shapiro Wilk Test Statistic		0.963						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.557						
Lilliefors Test Statistic		0.0787						
Lilliefors Critical (0.05) Value		0.188						
Data appear Lognormal at (0.05) Significance Level								
Barium (m-57a)								
Raw Statistics								
Number of Valid Observations		21						
Number of Missing Observations		2						
Number of Distinct Observations		13						
Minimum		0.038						
Maximum		0.072						
Mean of Raw Data		0.0461						
Standard Deviation of Raw Data		0.00821						
Khat		39.61						
Theta hat		0.00117						
Kstar		33.98						
Theta star		0.00136						
Mean of Log Transformed Data		-3.089						
Standard Deviation of Log Transformed Data		0.156						
Normal GOF Test Results								
Correlation Coefficient R		0.858						
Shapiro Wilk Test Statistic		0.748						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		5.3436E-5						
Lilliefors Test Statistic		0.268						
Lilliefors Critical (0.05) Value		0.188						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.89						
A-D Test Statistic		1.628						
A-D Critical (0.05) Value		0.742						
K-S Test Statistic		0.242						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%			
K-S Critical(0.05) Value		0.189							
Data not Gamma Distributed at (0.05) Significance Level									
Lognormal GOF Test Results									
Correlation Coefficient R		0.897							
Shapiro Wilk Test Statistic		0.812							
Shapiro Wilk Critical (0.05) Value		0.908							
Approximate Shapiro Wilk P Value		6.4561E-4							
Lilliefors Test Statistic		0.231							
Lilliefors Critical (0.05) Value		0.188							
Data not Lognormal at (0.05) Significance Level									
Non-parametric GOF Test Results									
Data do not follow a discernible distribution at (0.05) Level of Significance									
Barium (m-58a)									
Raw Statistics									
Number of Valid Observations		21							
Number of Missing Observations		1							
Number of Distinct Observations		19							
Minimum		0.043							
Maximum		0.11							
Mean of Raw Data		0.0703							
Standard Deviation of Raw Data		0.0173							
Khat		17.93							
Theta hat		0.00392							
Kstar		15.4							
Theta star		0.00456							
Mean of Log Transformed Data		-2.683							
Standard Deviation of Log Transformed Data		0.243							
Normal GOF Test Results									
Correlation Coefficient R		0.98							
Shapiro Wilk Test Statistic		0.958							
Shapiro Wilk Critical (0.05) Value		0.908							

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Approximate Shapiro Wilk P Value		0.477						
Lilliefors Test Statistic		0.125						
Lilliefors Critical (0.05) Value		0.188						
Data appear Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.99						
A-D Test Statistic		0.187						
A-D Critical (0.05) Value		0.743						
K-S Test Statistic		0.101						
K-S Critical(0.05) Value		0.189						
Data appear Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.993						
Shapiro Wilk Test Statistic		0.984						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.958						
Lilliefors Test Statistic		0.0991						
Lilliefors Critical (0.05) Value		0.188						
Data appear Lognormal at (0.05) Significance Level								
Beryllium (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	0	17	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Beryllium (m-56a) was not processed!								
Beryllium (m-57a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	6	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Beryllium (m-57a) was not processed!

Beryllium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Beryllium (m-58a) was not processed!

Cadmium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cadmium (m-56a) was not processed!

Cadmium (m-57a)

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	6	17	0	17	100.00%		

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cadmium (m-57a) was not processed!

Cadmium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	0	17	100.00%		

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cadmium (m-58a) was not processed!

Chromium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	17	4	19.05%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	4	5.0000E-4	0.01	0.00375	0.00225	0.00448		
Statistics (Non-Detects Only)	17	5.1000E-4	0.076	0.0129	0.0063	0.0185		
Statistics (All: NDs treated as DL value)	21	5.0000E-4	0.076	0.0111	0.0052	0.017		
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.076	0.0108	0.005	0.0171		
Statistics (Normal ROS Imputed Data)	21	-0.0247	0.076	0.00811	0.0046	0.0199		
Statistics (Gamma ROS Imputed Data)	21	5.1000E-4	0.076	0.0123	0.0086	0.0166		
Statistics (Lognormal ROS Imputed Data)	21	3.4077E-4	0.076	0.0107	0.0046	0.0172		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Statistics (Non-Detects Only)	0.879	0.763	0.0147	-5.019	1.199	-0.239
Statistics (NDs = DL)	0.772	0.693	0.0144	-5.269	1.331	-0.253
Statistics (NDs = DL/2)	0.694	0.627	0.0155	-5.401	1.464	-0.271
Statistics (Gamma ROS Estimates)	1.053	0.934	0.0117	-4.94	1.085	-0.22
Statistics (Lognormal ROS Estimates)	--	--	--	-5.396	1.387	-0.257
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.774	0.757	0.753	0.872		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.622	0.892	Data Not Normal			
Shapiro-Wilk (NDs = DL)	0.593	0.908	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.587	0.908	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.787	0.908	Data Not Normal			
Lilliefors (Detects Only)	0.342	0.207	Data Not Normal			
Lilliefors (NDs = DL)	0.336	0.188	Data Not Normal			
Lilliefors (NDs = DL/2)	0.344	0.188	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.286	0.188	Data Not Normal			
	Gamma GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.953	0.949	0.953	0.927		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	0.668	0.771				
Kolmogorov-Smirnov (Detects Only)	0.234	0.216	Detected Data appear Approximate Gamma Distribution			
Anderson-Darling (NDs = DL)	0.638	0.782				
Kolmogorov-Smirnov (NDs = DL)	0.194	0.197	Data Appear Gamma Distributed			
Anderson-Darling (NDs = DL/2)	0.578	0.788				
Kolmogorov-Smirnov (NDs = DL/2)	0.196	0.198	Data Appear Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	0.776	0.768				
Kolmogorov-Smirnov (Gamma ROS Est.)	0.26	0.195	Data Not Gamma Distributed			
	Lognormal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Log ROS		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Correlation Coefficient R	0.982	0.976	0.977	0.988		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.974	0.892	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.949	0.908	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.953	0.908	Data Appear Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.974	0.908	Data Appear Lognormal			
Lilliefors (Detects Only)	0.153	0.207	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.14	0.188	Data Appear Lognormal			
Lilliefors (NDs = DL/2)	0.141	0.188	Data Appear Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.126	0.188	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Chromium (m-57a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	1	22	19	3	13.64%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	3	5.0000E-4	0.01	0.00517	0.005	0.00475
Statistics (Non-Detects Only)	19	6.6000E-4	0.16	0.0263	0.016	0.0354
Statistics (All: NDs treated as DL value)	22	5.0000E-4	0.16	0.0234	0.014	0.0336
Statistics (All: NDs treated as DL/2 value)	22	2.5000E-4	0.16	0.0231	0.014	0.0338
Statistics (Normal ROS Imputed Data)	22	-0.0424	0.16	0.0198	0.014	0.0372
Statistics (Gamma ROS Imputed Data)	22	6.6000E-4	0.16	0.0241	0.014	0.0332
Statistics (Lognormal ROS Imputed Data)	22	4.1884E-4	0.16	0.0229	0.014	0.0339
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	0.829	0.734	0.0317	-4.351	1.407	-0.323
Statistics (NDs = DL)	0.75	0.678	0.0312	-4.553	1.484	-0.326
Statistics (NDs = DL/2)	0.69	0.626	0.0334	-4.647	1.586	-0.341
Statistics (Gamma ROS Estimates)	0.889	0.798	0.0271	-4.385	1.306	-0.298
Statistics (Lognormal ROS Estimates)	--	--	--	-4.675	1.574	-0.337
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.77	0.759	0.761	0.846		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.619	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.6	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.603	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.75	0.911	Data Not Normal					
Lilliefors (Detects Only)	0.246	0.197	Data Not Normal					
Lilliefors (NDs = DL)	0.248	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.25	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.204	0.184	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.922	0.924	0.929	0.913				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.307	0.776						
Kolmogorov-Smirnov (Detects Only)	0.133	0.206	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.277	0.783						
Kolmogorov-Smirnov (NDs = DL)	0.112	0.193	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.243	0.788						
Kolmogorov-Smirnov (NDs = DL/2)	0.111	0.193	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.367	0.776						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.114	0.192	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.964	0.97	0.973	0.976				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.931	0.901	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.939	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.949	0.911	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.948	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.164	0.197	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.126	0.184	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.147	0.184	Data Appear Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Lilliefors (Lognormal ROS Estimates)	0.155	0.184	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Chromium (m-58a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	8	13	61.90%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	13	5.0000E-4	0.01	0.00227	0.001	0.00271
Statistics (Non-Detects Only)	8	5.2000E-4	0.0033	0.00151	9.8500E-4	0.00109
Statistics (All: NDs treated as DL value)	21	5.0000E-4	0.01	0.00198	0.001	0.00222
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.005	0.00128	9.1000E-4	0.00124
Statistics (Normal ROS Imputed Data)	21	-0.00153	0.0033	5.2563E-4	5.2000E-4	0.00119
Statistics (Gamma ROS Imputed Data)	21	5.2000E-4	0.01	0.00676	0.01	0.00428
Statistics (Lognormal ROS Imputed Data)	21	1.5872E-4	0.0033	8.6696E-4	6.1407E-4	8.4292E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	2.409	1.589	6.2517E-4	-6.72	0.706	-0.105
Statistics (NDs = DL)	1.421	1.25	0.00139	-6.617	0.843	-0.127
Statistics (NDs = DL/2)	1.453	1.277	8.7842E-4	-7.046	0.879	-0.125
Statistics (Gamma ROS Estimates)	1.348	1.187	0.00502	-5.411	1.132	-0.209
Statistics (Lognormal ROS Estimates)	--	--	--	-7.374	0.79	-0.107
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.915	0.803	0.875	0.963		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.821	0.818	Data Appear Normal			
Shapiro-Wilk (NDs = DL)	0.661	0.908	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.77	0.908	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.931	0.908	Data Appear Normal			
Lilliefors (Detects Only)	0.304	0.283	Data Not Normal			
Lilliefors (NDs = DL)	0.289	0.188	Data Not Normal			
Lilliefors (NDs = DL/2)	0.302	0.188	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.203	0.188	Data Not Normal			

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.958	0.949	0.982	0.67				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.492	0.723						
Kolmogorov-Smirnov (Detects Only)	0.27	0.297	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.202	0.76						
Kolmogorov-Smirnov (NDs = DL)	0.287	0.193	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.888	0.759						
Kolmogorov-Smirnov (NDs = DL/2)	0.214	0.193	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	3.067	0.762						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.397	0.193	Data Not Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.962	0.953	0.971	0.981				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.903	0.818	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.903	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.932	0.908	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.96	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.23	0.283	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.254	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.176	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.135	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Cobalt (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	13	8	38.10%		
	Number	Minimum	Maximum	Mean	Median	SD		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Non-Detects Only)	8	5.0000E-4	0.0025	0.00106	7.5000E-4	7.7632E-4		
Statistics (Non-Detects Only)	13	6.1000E-4	0.002	0.00105	0.0012	4.0311E-4		
Statistics (All: NDs treated as DL value)	21	5.0000E-4	0.0025	0.00105	0.001	5.5541E-4		
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.002	8.5238E-4	7.5000E-4	4.6569E-4		
Statistics (Normal ROS Imputed Data)	21	-9.449E-5	0.002	8.0171E-4	7.5000E-4	4.8912E-4		
Statistics (Gamma ROS Imputed Data)	21	6.1000E-4	0.01	0.00446	0.0013	0.00446		
Statistics (Lognormal ROS Imputed Data)	21	3.4193E-4	0.002	8.6337E-4	7.5000E-4	4.0782E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	7.881	6.114	1.3323E-4	-6.924	0.372	-0.0538		
Statistics (NDs = DL)	4.375	3.782	2.4106E-4	-6.973	0.491	-0.0704		
Statistics (NDs = DL/2)	3.104	2.693	2.7457E-4	-7.237	0.636	-0.0879		
Statistics (Gamma ROS Estimates)	0.928	0.827	0.00481	-6.04	1.189	-0.197		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.153	0.452	-0.0632		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.923	0.928	0.96	0.974				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.855	0.866	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.859	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.92	0.908	Data Appear Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.955	0.908	Data Appear Normal					
Lilliefors (Detects Only)	0.218	0.234	Data Appear Normal					
Lilliefors (NDs = DL)	0.187	0.188	Data Appear Normal					
Lilliefors (NDs = DL/2)	0.153	0.188	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.173	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.947	0.975	0.963	0.796				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.77	0.735						
Kolmogorov-Smirnov (Detects Only)	0.23	0.237	Detected Data appear Approximate Gamma Distribution					
Anderson-Darling (NDs = DL)	0.604	0.747						

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Kolmogorov-Smirnov (NDs = DL)	0.154	0.19	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.652	0.749						
Kolmogorov-Smirnov (NDs = DL/2)	0.176	0.191	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	2.58	0.773						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.302	0.195	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.945	0.971	0.953	0.98				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.885	0.866	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.931	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.898	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.959	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.241	0.234	Data Not Lognormal					
Lilliefors (NDs = DL)	0.131	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.17	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.173	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Cobalt (m-57a)								
Raw Statistics								
Number of Valid Observations	21							
Number of Missing Observations	2							
Number of Distinct Observations	18							
Minimum	0.0028							
Maximum	0.0088							
Mean of Raw Data	0.00656							
Standard Deviation of Raw Data	0.00193							
Khat	9.712							
Theta hat	6.7514E-4							
Kstar	8.357							
Theta star	7.8467E-4							
Mean of Log Transformed Data	-5.08							
Standard Deviation of Log Transformed Data	0.354							

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Normal GOF Test Results								
Correlation Coefficient R		0.955						
Shapiro Wilk Test Statistic		0.898						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.0292						
Lilliefors Test Statistic		0.211						
Lilliefors Critical (0.05) Value		0.188						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.912						
A-D Test Statistic		1.053						
A-D Critical (0.05) Value		0.743						
K-S Test Statistic		0.227						
K-S Critical(0.05) Value		0.189						
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.923						
Shapiro Wilk Test Statistic		0.842						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.00234						
Lilliefors Test Statistic		0.225						
Lilliefors Critical (0.05) Value		0.188						
Data not Lognormal at (0.05) Significance Level								
Non-parametric GOF Test Results								
Data do not follow a discernible distribution at (0.05) Level of Significance								
Cobalt (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	6	15	71.43%		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	15	5.0000E-4	0.01	0.00143	5.0000E-4	0.00245		
Statistics (Non-Detects Only)	6	5.1000E-4	0.0011	8.2333E-4	8.8000E-4	2.4196E-4		
Statistics (All: NDs treated as DL value)	21	5.0000E-4	0.01	0.00126	5.1000E-4	0.00207		
Statistics (All: NDs treated as DL/2 value)	21	2.5000E-4	0.005	7.4714E-4	5.0000E-4	0.00103		
Statistics (Normal ROS Imputed Data)	21	-3.250E-4	0.0011	3.7830E-4	3.7128E-4	3.7028E-4		
Statistics (Gamma ROS Imputed Data)	21	5.1000E-4	0.01	0.00738	0.01	0.00425		
Statistics (Lognormal ROS Imputed Data)	21	1.8315E-4	0.0011	5.0089E-4	4.4471E-4	2.5546E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	12.67	6.444	6.5004E-5	-7.142	0.318	-0.0445		
Statistics (NDs = DL)	1.274	1.124	9.8796E-4	-7.119	0.753	-0.106		
Statistics (NDs = DL/2)	1.349	1.188	5.5384E-4	-7.614	0.812	-0.107		
Statistics (Gamma ROS Estimates)	1.33	1.172	0.00555	-5.33	1.185	-0.222		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.709	0.473	-0.0614		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.965	0.608	0.683	0.985				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.909	0.788	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.396	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.492	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.968	0.908	Data Appear Normal					
Lilliefors (Detects Only)	0.228	0.325	Data Appear Normal					
Lilliefors (NDs = DL)	0.388	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.315	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.123	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.944	0.809	0.854	0.583				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.407	0.698						
Kolmogorov-Smirnov (Detects Only)	0.256	0.332	Detected Data Appear Gamma Distributed					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Anderson-Darling (NDs = DL)	3.141	0.763						
Kolmogorov-Smirnov (NDs = DL)	0.297	0.194	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.832	0.762						
Kolmogorov-Smirnov (NDs = DL/2)	0.255	0.193	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	4.473	0.762						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.458	0.193	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.954	0.826	0.896	0.982				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.888	0.788	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.693	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.804	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.961	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.239	0.325	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.261	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.275	0.188	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.155	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Fluoride (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	8	13	61.90%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	13	0.4	0.8	0.523	0.4	0.192		
Statistics (Non-Detects Only)	8	0.4	0.49	0.435	0.425	0.0342		
Statistics (All: NDs treated as DL value)	21	0.4	0.8	0.49	0.4	0.156		
Statistics (All: NDs treated as DL/2 value)	21	0.2	0.49	0.328	0.4	0.116		
Statistics (Normal ROS Imputed Data)	21	0.266	0.49	0.379	0.375	0.0605		
Statistics (Gamma ROS Imputed Data)	21	0.276	0.49	0.381	0.376	0.058		
Statistics (Lognormal ROS Imputed Data)	21	0.295	0.49	0.386	0.379	0.053		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Non-Detects Only)	188.2	117.7	0.00231	-0.835	0.0776	-0.0929		
Statistics (NDs = DL)	12.99	11.16	0.0377	-0.753	0.27	-0.359		
Statistics (NDs = DL/2)	7.681	6.615	0.0427	-1.182	0.383	-0.324		
Statistics (Gamma ROS Estimates)	44.81	38.44	0.00851	-0.975	0.154	-0.158		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.962	0.137	-0.143		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.96	0.772	0.885	0.997				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.9	0.818	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.588	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.764	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.988	0.908	Data Appear Normal					
Lilliefors (Detects Only)	0.183	0.283	Data Appear Normal					
Lilliefors (NDs = DL)	0.315	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.306	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0914	0.188	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.963	0.82	0.874	0.995				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.405	0.715						
Kolmogorov-Smirnov (Detects Only)	0.178	0.294	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	3.863	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.309	0.189	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.717	0.744						
Kolmogorov-Smirnov (NDs = DL/2)	0.327	0.19	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.128	0.741						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.104	0.189	Data Appear Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
Correlation Coefficient R	0.962	0.793	0.866	0.997		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.904	0.818	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.619	0.908	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.73	0.908	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.987	0.908	Data Appear Lognormal			
Lilliefors (Detects Only)	0.171	0.283	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.298	0.188	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.328	0.188	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.0914	0.188	Data Appear Lognormal			

Note: Substitution methods such as DL or DL/2 are not recommended.

Fluoride (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	2	21	2	19	90.48%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	19	0.4	0.8	0.463	0.4	0.15
Statistics (Non-Detects Only)	2	0.42	0.53	0.475	0.475	0.0778
Statistics (All: NDs treated as DL value)	21	0.4	0.8	0.464	0.4	0.143
Statistics (All: NDs treated as DL/2 value)	21	0.2	0.53	0.255	0.2	0.104
Statistics (Normal ROS Imputed Data)	21	-0.573	0.53	-0.0445	-0.0478	0.282
Statistics (Gamma ROS Imputed Data)	21	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Imputed Data)	21	0.0515	0.53	0.187	0.156	0.119
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (NDs = DL)	14.75	12.67	0.0315	-0.802	0.25	-0.311
Statistics (NDs = DL/2)	8.326	7.168	0.0306	-1.429	0.336	-0.235
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Estimates)	--	--	--	-1.85	0.596	-0.322

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	1	0.698	0.759	0.998

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.487	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.578	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.993	0.908	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.435	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.464	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0574	0.188	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.756	0.829	0.985				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	5.293	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.443	0.189	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	4.732	0.744						
Kolmogorov-Smirnov (NDs = DL/2)	0.472	0.19	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.74						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.189						
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	1	0.708	0.757	N/A				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.5	0.908	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.571	0.908	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.993	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.439	0.188	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.467	0.188	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.0574	0.188	Data Appear Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%

Note: Substitution methods such as DL or DL/2 are not recommended.

Fluoride (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	1	20	95.24%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Fluoride (m-58a) was not processed!

Lead (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lead (m-56a) was not processed!

Lead (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	6	17	2	15	88.24%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	15	5.0000E-4	0.01	0.00147	5.0000E-4	0.00244
Statistics (Non-Detects Only)	2	2.1000E-4	8.6000E-4	5.3500E-4	5.3500E-4	4.5962E-4
Statistics (All: NDs treated as DL value)	17	2.1000E-4	0.01	0.00136	5.0000E-4	0.0023
Statistics (All: NDs treated as DL/2 value)	17	2.1000E-4	0.005	7.1000E-4	2.5000E-4	0.00115
Statistics (Normal ROS Imputed Data)	17	-2.297E-4	8.6000E-4	2.5623E-4	2.5112E-4	2.5801E-4
Statistics (Gamma ROS Imputed Data)	17	N/A	N/A	N/A	N/A	N/A

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Lognormal ROS Imputed Data)	17	8.0909E-5	8.6000E-4	2.7189E-4	2.2959E-4	1.8188E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	1.057	0.909	0.00128	-7.145	0.882	-0.123		
Statistics (NDs = DL/2)	1.124	0.965	6.3150E-4	-7.757	0.851	-0.11		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-8.368	0.56	-0.0669		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.645	0.654	0.978				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.446	0.892	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.456	0.892	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.969	0.892	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.385	0.207	Data Not Normal					
Lilliefors (NDs = DL/2)	0.337	0.207	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.155	0.207	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.851	0.856	0.431				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	2.229	0.765						
Kolmogorov-Smirnov (NDs = DL)	0.309	0.215	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.298	0.763						
Kolmogorov-Smirnov (NDs = DL/2)	0.316	0.215	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.736						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.208						
	Lognormal GOF Test Results							

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	1	0.882	0.856	N/A				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.801	0.892	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.743	0.892	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.969	0.892	Data Appear Lognormal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.286	0.207	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.324	0.207	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.155	0.207	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Lead (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	5	17	4	13	76.47%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	13	1.0000E-4	0.01	0.00155	5.0000E-4	0.00263		
Statistics (Non-Detects Only)	4	5.6000E-4	0.0011	7.5750E-4	6.8500E-4	2.4824E-4		
Statistics (All: NDs treated as DL value)	17	1.0000E-4	0.01	0.00136	5.6000E-4	0.00231		
Statistics (All: NDs treated as DL/2 value)	17	5.0000E-5	0.005	7.6941E-4	5.0000E-4	0.00114		
Statistics (Normal ROS Imputed Data)	17	-4.451E-4	0.0011	2.3541E-4	2.2359E-4	3.7714E-4		
Statistics (Gamma ROS Imputed Data)	17	5.6000E-4	0.01	0.00783	0.01	0.00404		
Statistics (Lognormal ROS Imputed Data)	17	1.6401E-4	0.0011	4.2621E-4	3.7611E-4	2.2993E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	13.53	3.548	5.6000E-5	-7.223	0.31	-0.0429		
Statistics (NDs = DL)	1.007	0.868	0.00135	-7.173	0.961	-0.134		
Statistics (NDs = DL/2)	1.074	0.924	7.1611E-4	-7.703	0.999	-0.13		
Statistics (Gamma ROS Estimates)	1.494	1.269	0.00524	-5.221	1.152	-0.221		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.871	0.468	-0.0595		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Correlation Coefficient R	0.94	0.652	0.701	0.982				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.878	0.748	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.456	0.892	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.521	0.892	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.973	0.892	Data Appear Normal					
Lilliefors (Detects Only)	0.25	0.375	Data Appear Normal					
Lilliefors (NDs = DL)	0.369	0.207	Data Not Normal					
Lilliefors (NDs = DL/2)	0.278	0.207	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.151	0.207	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.975	0.858	0.881	0.546				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.366	0.657						
Kolmogorov-Smirnov (Detects Only)	0.285	0.395	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.899	0.766						
Kolmogorov-Smirnov (NDs = DL)	0.27	0.215	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.113	0.764						
Kolmogorov-Smirnov (NDs = DL/2)	0.209	0.215	Detected Data appear Approximate Gamma Distribution					
Anderson-Darling (Gamma ROS Estimates)	4.131	0.756						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.485	0.213	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.956	0.905	0.943	0.982				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.905	0.748	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.85	0.892	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.913	0.892	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.973	0.892	Data Appear Lognormal					
Lilliefors (Detects Only)	0.254	0.375	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.269	0.207	Data Not Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Lilliefors (NDs = DL/2)	0.218	0.207	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.151	0.207	Data Appear Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

Lithium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	4	18	1	17	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lithium (m-56a) was not processed!

Lithium (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	1	17	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lithium (m-57a) was not processed!

Lithium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	4	18	1	17	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Lithium (m-58a) was not processed!

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%

Mercury (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-56a) was not processed!

Mercury (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	6	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-57a) was not processed!

Mercury (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	0	17	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-58a) was not processed!

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Molybdenum (m-56a)								
Raw Statistics								
Number of Valid Observations	21							
Number of Missing Observations	1							
Number of Distinct Observations	18							
Minimum	0.0057							
Maximum	0.029							
Mean of Raw Data	0.0123							
Standard Deviation of Raw Data	0.00571							
Khat	6.307							
Theta hat	0.00195							
Kstar	5.438							
Theta star	0.00227							
Mean of Log Transformed Data	-4.477							
Standard Deviation of Log Transformed Data	0.395							
Normal GOF Test Results								
Correlation Coefficient R	0.899							
Shapiro Wilk Test Statistic	0.816							
Shapiro Wilk Critical (0.05) Value	0.908							
Approximate Shapiro Wilk P Value	7.5168E-4							
Lilliefors Test Statistic	0.215							
Lilliefors Critical (0.05) Value	0.188							
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R	0.955							
A-D Test Statistic	0.795							
A-D Critical (0.05) Value	0.745							
K-S Test Statistic	0.177							
K-S Critical(0.05) Value	0.19							
Data follow Appr. Gamma Distribution at (0.05) Significance Level								
Lognormal GOF Test Results								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Correlation Coefficient R		0.969						
Shapiro Wilk Test Statistic		0.943						
Shapiro Wilk Critical (0.05) Value		0.908						
Approximate Shapiro Wilk P Value		0.247						
Lilliefors Test Statistic		0.152						
Lilliefors Critical (0.05) Value		0.188						
Data appear Lognormal at (0.05) Significance Level								
Molybdenum (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	2	21	20	1	4.76%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	1	0.0025	0.0025	0.0025	0.0025	N/A		
Statistics (Non-Detects Only)	20	0.0011	0.022	0.00647	0.00465	0.00526		
Statistics (All: NDs treated as DL value)	21	0.0011	0.022	0.00628	0.0046	0.00519		
Statistics (All: NDs treated as DL/2 value)	21	0.0011	0.022	0.00622	0.0046	0.00525		
Statistics (Normal ROS Imputed Data)	21	-0.00269	0.022	0.00603	0.0046	0.0055		
Statistics (Gamma ROS Imputed Data)	21	0.0011	0.022	0.00663	0.0047	0.00518		
Statistics (Lognormal ROS Imputed Data)	21	0.0011	0.022	0.00622	0.0046	0.00524		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	2.257	1.952	0.00286	-5.279	0.688	-0.13		
Statistics (NDs = DL)	2.22	1.934	0.00283	-5.313	0.688	-0.129		
Statistics (NDs = DL/2)	2.035	1.776	0.00305	-5.346	0.737	-0.138		
Statistics (Gamma ROS Estimates)	2.316	2.017	0.00286	-5.247	0.686	-0.131		
Statistics (Lognormal ROS Estimates)	--	--	--	-5.344	0.733	-0.137		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.86	0.856	0.865	0.895				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.75	0.905	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.742	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.756	0.908	Data Not Normal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro-Wilk (Normal ROS Estimates)	0.816	0.908	Data Not Normal					
Lilliefors (Detects Only)	0.235	0.192	Data Not Normal					
Lilliefors (NDs = DL)	0.231	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.225	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.217	0.188	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.956	0.955	0.961	0.968				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.739	0.751						
Kolmogorov-Smirnov (Detects Only)	0.178	0.196	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.764	0.753						
Kolmogorov-Smirnov (NDs = DL)	0.18	0.192	Detected Data appear Approximate Gamma Distribution					
Anderson-Darling (NDs = DL/2)	0.612	0.754						
Kolmogorov-Smirnov (NDs = DL/2)	0.164	0.192	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.584	0.752						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.167	0.191	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.974	0.976	0.981	0.981				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.959	0.905	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.96	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.964	0.908	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.965	0.908	Data Appear Lognormal					
Lilliefors (Detects Only)	0.135	0.192	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.134	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.115	0.188	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.116	0.188	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Molybdenum (m-58a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	22	1	21	18	3	14.29%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	3	0.0018	0.01	0.00477	0.0025	0.00455		
Statistics (Non-Detects Only)	18	0.0014	0.02	0.00301	0.0018	0.0043		
Statistics (All: NDs treated as DL value)	21	0.0014	0.02	0.00326	0.0018	0.00427		
Statistics (All: NDs treated as DL/2 value)	21	9.0000E-4	0.02	0.00292	0.0018	0.00404		
Statistics (Normal ROS Imputed Data)	21	3.8950E-4	0.02	0.00283	0.0018	0.00401		
Statistics (Gamma ROS Imputed Data)	21	0.0014	0.02	0.004	0.0018	0.00469		
Statistics (Lognormal ROS Imputed Data)	21	0.00137	0.02	0.00283	0.0018	0.00399		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	1.727	1.476	0.00174	-6.124	0.612	-0.0999		
Statistics (NDs = DL)	1.673	1.466	0.00195	-6.055	0.657	-0.108		
Statistics (NDs = DL/2)	1.729	1.513	0.00169	-6.154	0.637	-0.104		
Statistics (Gamma ROS Estimates)	1.437	1.263	0.00279	-5.907	0.784	-0.133		
Statistics (Lognormal ROS Estimates)	--	--	--	-6.156	0.574	-0.0932		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.571	0.643	0.606	0.582				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.356	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.435	0.908	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.395	0.908	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.368	0.908	Data Not Normal					
Lilliefors (Detects Only)	0.436	0.202	Data Not Normal					
Lilliefors (NDs = DL)	0.428	0.188	Data Not Normal					
Lilliefors (NDs = DL/2)	0.398	0.188	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.426	0.188	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.75	0.825	0.778	0.915				

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	3.86	0.755				
Kolmogorov-Smirnov (Detects Only)	0.384	0.207	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL)	3.973	0.757				
Kolmogorov-Smirnov (NDs = DL)	0.382	0.192	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	3.257	0.756				
Kolmogorov-Smirnov (NDs = DL/2)	0.347	0.192	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	3.251	0.76				
Kolmogorov-Smirnov (Gamma ROS Est.)	0.355	0.193	Data Not Gamma Distributed			

Lognormal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	0.736	0.787	0.835	0.736

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.57	0.897	Data Not Lognormal
Shapiro-Wilk (NDs = DL)	0.633	0.908	Data Not Lognormal
Shapiro-Wilk (NDs = DL/2)	0.721	0.908	Data Not Lognormal
Shapiro-Wilk (Lognormal ROS Estimates)	0.566	0.908	Data Not Lognormal
Lilliefors (Detects Only)	0.33	0.202	Data Not Lognormal
Lilliefors (NDs = DL)	0.319	0.188	Data Not Lognormal
Lilliefors (NDs = DL/2)	0.288	0.188	Data Not Lognormal
Lilliefors (Lognormal ROS Estimates)	0.332	0.188	Data Not Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Total Radium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	4	18	12	6	33.33%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	6	0.4	1.2	0.783	0.75	0.264
Statistics (Non-Detects Only)	12	0.5	1.9	1.158	1.3	0.558
Statistics (All: NDs treated as DL value)	18	0.4	1.9	1.033	0.85	0.505
Statistics (All: NDs treated as DL/2 value)	18	0.2	1.9	0.903	0.6	0.587
Statistics (Normal ROS Imputed Data)	18	-0.215	1.9	0.912	0.6	0.603

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Gamma ROS Imputed Data)	18	0.135	1.9	0.94	0.6	0.561		
Statistics (Lognormal ROS Imputed Data)	18	0.268	1.9	0.945	0.6	0.552		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	4.086	3.12	0.283	0.0196	0.549	27.92		
Statistics (NDs = DL)	4.385	3.691	0.236	-0.0856	0.507	-5.926		
Statistics (NDs = DL/2)	2.487	2.109	0.363	-0.317	0.688	-2.172		
Statistics (Gamma ROS Estimates)	2.755	2.333	0.341	-0.254	0.68	-2.68		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.22	0.59	-2.682		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.936	0.956	0.927	0.949				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.847	0.859	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.896	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.842	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.896	0.897	Data Not Normal					
Lilliefors (Detects Only)	0.258	0.243	Data Not Normal					
Lilliefors (NDs = DL)	0.19	0.202	Data Appear Normal					
Lilliefors (NDs = DL/2)	0.308	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.253	0.202	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.914	0.963	0.939	0.94				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.972	0.735						
Kolmogorov-Smirnov (Detects Only)	0.264	0.246	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	0.626	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.171	0.204	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.94	0.749						
Kolmogorov-Smirnov (NDs = DL/2)	0.261	0.206	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.968	0.747						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.242	0.205	Data Not Gamma Distributed					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.92	0.971	0.96	0.944				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.819	0.859	Data Not Lognormal					
Shapiro-Wilk (NDs = DL)	0.924	0.897	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.91	0.897	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.881	0.897	Data Not Lognormal					
Lilliefors (Detects Only)	0.25	0.243	Data Not Lognormal					
Lilliefors (NDs = DL)	0.148	0.202	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.222	0.202	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.245	0.202	Data Not Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Total Radium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	5	18	5	13	72.22%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	13	0.4	0.9	0.669	0.7	0.118		
Statistics (Non-Detects Only)	5	0.5	1.5	0.88	0.7	0.415		
Statistics (All: NDs treated as DL value)	18	0.4	1.5	0.728	0.7	0.244		
Statistics (All: NDs treated as DL/2 value)	18	0.2	1.5	0.486	0.35	0.326		
Statistics (Normal ROS Imputed Data)	18	-0.384	1.5	0.316	0.235	0.484		
Statistics (Gamma ROS Imputed Data)	18	0.01	1.5	0.394	0.267	0.401		
Statistics (Lognormal ROS Imputed Data)	18	0.192	1.5	0.498	0.388	0.331		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	6.104	2.575	0.144	-0.212	0.452	-2.133		
Statistics (NDs = DL)	11.88	9.935	0.0613	-0.36	0.288	-0.799		
Statistics (NDs = DL/2)	3.737	3.151	0.13	-0.861	0.496	-0.576		
Statistics (Gamma ROS Estimates)	0.738	0.652	0.534	-1.746	1.67	-0.957		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.854	0.547	-0.641		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.951	0.865	0.813	0.975				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.896	0.762	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.773	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.678	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.952	0.897	Data Appear Normal					
Lilliefors (Detects Only)	0.268	0.343	Data Appear Normal					
Lilliefors (NDs = DL)	0.323	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.273	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.106	0.202	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.985	0.909	0.912	0.989				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.317	0.68						
Kolmogorov-Smirnov (Detects Only)	0.258	0.358	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.157	0.739						
Kolmogorov-Smirnov (NDs = DL)	0.292	0.203	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.578	0.743						
Kolmogorov-Smirnov (NDs = DL/2)	0.275	0.205	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.507	0.779						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.159	0.212	Data Appear Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.976	0.931	0.917	0.978				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.94	0.762	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.889	0.897	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.852	0.897	Data Not Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Shapiro-Wilk (Lognormal ROS Estimates)	0.956	0.897	Data Appear Lognormal					
Lilliefors (Detects Only)	0.226	0.343	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.273	0.202	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.259	0.202	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.107	0.202	Data Appear Lognormal					

Note: Substitution methods such as DL or DL/2 are not recommended.

Total Radium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	4	18	9	9	50.00%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	9	0.6	0.9	0.689	0.7	0.0928
Statistics (Non-Detects Only)	9	0.5	2.6	1.3	0.9	0.745
Statistics (All: NDs treated as DL value)	18	0.5	2.6	0.994	0.7	0.603
Statistics (All: NDs treated as DL/2 value)	18	0.3	2.6	0.822	0.475	0.71
Statistics (Normal ROS Imputed Data)	18	-0.724	2.6	0.642	0.501	0.894
Statistics (Gamma ROS Imputed Data)	18	0.01	2.6	0.741	0.489	0.779
Statistics (Lognormal ROS Imputed Data)	18	0.223	2.6	0.856	0.569	0.691

	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	3.683	2.529	0.353	0.12	0.562	4.666
Statistics (NDs = DL)	4.184	3.523	0.238	-0.13	0.472	-3.635
Statistics (NDs = DL/2)	1.932	1.647	0.426	-0.476	0.73	-1.533
Statistics (Gamma ROS Estimates)	0.678	0.602	1.094	-1.196	1.805	-1.509
Statistics (Lognormal ROS Estimates)	--	--	--	-0.407	0.703	-1.728

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.941	0.832	0.867	0.974

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.873	0.829	Data Appear Normal
Shapiro-Wilk (NDs = DL)	0.697	0.897	Data Not Normal
Shapiro-Wilk (NDs = DL/2)	0.748	0.897	Data Not Normal
Shapiro-Wilk (Normal ROS Estimates)	0.947	0.897	Data Appear Normal

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Lilliefors (Detects Only)	0.26	0.274	Data Appear Normal					
Lilliefors (NDs = DL)	0.34	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.234	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.164	0.202	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.972	0.916	0.964	0.977				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.426	0.726						
Kolmogorov-Smirnov (Detects Only)	0.242	0.281	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.795	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.292	0.205	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.215	0.753						
Kolmogorov-Smirnov (NDs = DL/2)	0.228	0.206	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.335	0.784						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.121	0.212	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.975	0.905	0.936	0.981				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.938	0.829	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.819	0.897	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.86	0.897	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.954	0.897	Data Appear Lognormal					
Lilliefors (Detects Only)	0.212	0.274	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.257	0.202	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.228	0.202	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.119	0.202	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Selenium (m-56a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	4	13	76.47%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	13	5.0000E-4	0.01	0.00158	5.0000E-4	0.00261
Statistics (Non-Detects Only)	4	3.3000E-4	6.2000E-4	5.2000E-4	5.6500E-4	1.2936E-4
Statistics (All: NDs treated as DL value)	17	3.3000E-4	0.01	0.00133	5.6000E-4	0.00231
Statistics (All: NDs treated as DL/2 value)	17	2.5000E-4	0.005	7.2824E-4	3.3000E-4	0.00114
Statistics (Normal ROS Imputed Data)	17	2.0883E-4	6.2000E-4	4.0475E-4	4.0150E-4	1.0655E-4
Statistics (Gamma ROS Imputed Data)	17	3.3000E-4	0.01	0.00777	0.01	0.00415
Statistics (Lognormal ROS Imputed Data)	17	2.5547E-4	6.2000E-4	4.0318E-4	3.8982E-4	9.9115E-5
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	17.88	4.635	2.9091E-5	-7.59	0.288	-0.0379
Statistics (NDs = DL)	1.072	0.922	0.00124	-7.154	0.841	-0.118
Statistics (NDs = DL/2)	1.23	1.052	5.9217E-4	-7.684	0.805	-0.105
Statistics (Gamma ROS Estimates)	1.252	1.07	0.00621	-5.307	1.311	-0.247
Statistics (Lognormal ROS Estimates)	--	--	--	-7.843	0.235	-0.0299
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.889	0.631	0.651	0.979		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.805	0.748	Data Appear Normal			
Shapiro-Wilk (NDs = DL)	0.428	0.892	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.452	0.892	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.96	0.892	Data Appear Normal			
Lilliefors (Detects Only)	0.371	0.375	Data Appear Normal			
Lilliefors (NDs = DL)	0.381	0.207	Data Not Normal			
Lilliefors (NDs = DL/2)	0.361	0.207	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.159	0.207	Data Appear Normal			
	Gamma GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.839	0.843	0.844	0.526		

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	0.634	0.657				
Kolmogorov-Smirnov (Detects Only)	0.404	0.394	Detected Data appear Approximate Gamma Distribution			
Anderson-Darling (NDs = DL)	2.727	0.765				
Kolmogorov-Smirnov (NDs = DL)	0.348	0.215	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	2.006	0.761				
Kolmogorov-Smirnov (NDs = DL/2)	0.27	0.214	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	4.213	0.761				
Kolmogorov-Smirnov (Gamma ROS Est.)	0.487	0.214	Data Not Gamma Distributed			
Lognormal GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	0.867	0.839	0.875	0.977		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.766	0.748	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.721	0.892	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.772	0.892	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.956	0.892	Data Appear Lognormal			
Lilliefors (Detects Only)	0.389	0.375	Data Not Lognormal			
Lilliefors (NDs = DL)	0.315	0.207	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.224	0.207	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.159	0.207	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Selenium (m-57a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	6	17	2	15	88.24%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	15	5.0000E-4	0.01	0.00147	5.0000E-4	0.00244
Statistics (Non-Detects Only)	2	2.9000E-4	6.9000E-4	4.9000E-4	4.9000E-4	2.8284E-4
Statistics (All: NDs treated as DL value)	17	2.9000E-4	0.01	0.00136	5.0000E-4	0.0023
Statistics (All: NDs treated as DL/2 value)	17	2.5000E-4	0.005	7.0765E-4	2.9000E-4	0.00114
Statistics (Normal ROS Imputed Data)	17	3.2547E-5	6.9000E-4	3.1910E-4	3.1531E-4	1.5241E-4
Statistics (Gamma ROS Imputed Data)	17	N/A	N/A	N/A	N/A	N/A

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%		
Statistics (Lognormal ROS Imputed Data)	17	1.6600E-4	6.9000E-4	3.2610E-4	3.0635E-4	1.2070E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	1.086	0.934	0.00125	-7.129	0.85	-0.119		
Statistics (NDs = DL/2)	1.166	1	6.0686E-4	-7.74	0.821	-0.106		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-8.083	0.33	-0.0409		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.64	0.645	0.969				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.44	0.892	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.444	0.892	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.953	0.892	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.385	0.207	Data Not Normal					
Lilliefors (NDs = DL/2)	0.345	0.207	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.208	0.207	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.847	0.847	0.433				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	2.363	0.764						
Kolmogorov-Smirnov (NDs = DL)	0.313	0.215	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.329	0.763						
Kolmogorov-Smirnov (NDs = DL/2)	0.279	0.214	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.736						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.208						
	Lognormal GOF Test Results							

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	1	0.868	0.85	N/A

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (NDs = DL)	0.772	0.892	Data Not Lognormal
Shapiro-Wilk (NDs = DL/2)	0.73	0.892	Data Not Lognormal
Shapiro-Wilk (Lognormal ROS Estimates)	0.953	0.892	Data Appear Lognormal
Lilliefors (Detects Only)	N/A	N/A	
Lilliefors (NDs = DL)	0.24	0.207	Data Not Lognormal
Lilliefors (NDs = DL/2)	0.263	0.207	Data Not Lognormal
Lilliefors (Lognormal ROS Estimates)	0.208	0.207	Data Not Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Selenium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	5	17	1	16	94.12%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Selenium (m-58a) was not processed!

Thallium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	1	20	95.24%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Thallium (m-56a) was not processed!

Appendix B
Goodness of Fit Statistics

Raw Statistics	22	5	17	0	17	100.00%

Thallium (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	2	21	0	21	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Thallium (m-57a) was not processed!

Thallium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	22	1	21	0	21	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Thallium (m-58a) was not processed!

Appendix B
Outlier Statistics

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.13/15/2021 11:26:22 AM
From File	Cholla_SEDI_ProUCL_Q12021AppIV_20210315v1_a.xls
Full Precision	OFF

Dixon's Outlier Test for Arsenic (m-62a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.642

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0016 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.094

For 10% significance level, 0.0016 is not an outlier.
For 5% significance level, 0.0016 is not an outlier.
For 1% significance level, 0.0016 is not an outlier.

Dixon's Outlier Test for Chromium (m-62a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.44
Test Statistic: 0.510

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is not an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.058

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Total Radium (m-62a)

Number of Observations = 17
10% critical value: 0.438
5% critical value: 0.49
1% critical value: 0.577

1. Observation Value 2 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.400

For 10% significance level, 2 is not an outlier.
For 5% significance level, 2 is not an outlier.
For 1% significance level, 2 is not an outlier.

2. Observation Value 0.001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.357

For 10% significance level, 0.001 is not an outlier.
For 5% significance level, 0.001 is not an outlier.
For 1% significance level, 0.001 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44

Outlier Tests for Selected Uncensored Variables

User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2021 9:25:35 PM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF

Dixon's Outlier Test for Arsenic (m-56a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.161

For 10% significance level, 0.01 is not an outlier.
For 5% significance level, 0.01 is not an outlier.
For 1% significance level, 0.01 is not an outlier.

2. Observation Value 0.0006 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.010

For 10% significance level, 0.0006 is not an outlier.
For 5% significance level, 0.0006 is not an outlier.
For 1% significance level, 0.0006 is not an outlier.

Dixon's Outlier Test for Arsenic (m-57a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

Appendix B
Outlier Statistics

5% critical value: 0.44
1. Observation Value 0.021 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.754
For 10% significance level, 0.021 is an outlier.
For 5% significance level, 0.021 is an outlier.
For 1% significance level, 0.021 is an outlier.
2. Observation Value 0.0017 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.041
For 10% significance level, 0.0017 is not an outlier.
For 5% significance level, 0.0017 is not an outlier.
For 1% significance level, 0.0017 is not an outlier.
Dixon's Outlier Test for Arsenic (m-58a)
Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524
1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.614
For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.
2. Observation Value 0.0025 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.156
For 10% significance level, 0.0025 is not an outlier.
For 5% significance level, 0.0025 is not an outlier.
For 1% significance level, 0.0025 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44

Dixon's Outlier Test for Barium (m-56a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.086 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.129

For 10% significance level, 0.086 is not an outlier.
For 5% significance level, 0.086 is not an outlier.
For 1% significance level, 0.086 is not an outlier.

2. Observation Value 0.05 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.156

For 10% significance level, 0.05 is not an outlier.
For 5% significance level, 0.05 is not an outlier.
For 1% significance level, 0.05 is not an outlier.

Dixon's Outlier Test for Barium (m-57a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.072 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.548

For 10% significance level, 0.072 is an outlier.
For 5% significance level, 0.072 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44
For 1% significance level, 0.072 is an outlier.

2. Observation Value 0.038 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.176

For 10% significance level, 0.038 is not an outlier.
For 5% significance level, 0.038 is not an outlier.
For 1% significance level, 0.038 is not an outlier.

Dixon's Outlier Test for Barium (m-58a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.11 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.213

For 10% significance level, 0.11 is not an outlier.
For 5% significance level, 0.11 is not an outlier.
For 1% significance level, 0.11 is not an outlier.

2. Observation Value 0.043 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.111

For 10% significance level, 0.043 is not an outlier.
For 5% significance level, 0.043 is not an outlier.
For 1% significance level, 0.043 is not an outlier.

Dixon's Outlier Test for Chromium (m-56a)

Number of Observations = 21
10% critical value: 0.391

Appendix B
Outlier Statistics

5% critical value: 0.44
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.076 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.702

For 10% significance level, 0.076 is an outlier.
For 5% significance level, 0.076 is an outlier.
For 1% significance level, 0.076 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Chromium (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.16 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.741

For 10% significance level, 0.16 is an outlier.
For 5% significance level, 0.16 is an outlier.
For 1% significance level, 0.16 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.006

Appendix B
Outlier Statistics

5% critical value: 0.44
For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Chromium (m-58a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.632

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Cobalt (m-56a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.0025 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.250

Appendix B
Outlier Statistics

5% critical value: 0.44

For 10% significance level, 0.0025 is not an outlier.
For 5% significance level, 0.0025 is not an outlier.
For 1% significance level, 0.0025 is not an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Cobalt (m-57a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.0088 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.042

For 10% significance level, 0.0088 is not an outlier.
For 5% significance level, 0.0088 is not an outlier.
For 1% significance level, 0.0088 is not an outlier.

2. Observation Value 0.0028 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.207

For 10% significance level, 0.0028 is not an outlier.
For 5% significance level, 0.0028 is not an outlier.
For 1% significance level, 0.0028 is not an outlier.

Dixon's Outlier Test for Cobalt (m-58a)

Appendix B
Outlier Statistics

5% critical value: 0.44

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Molybdenum (m-56a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.029 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.379

For 10% significance level, 0.029 is not an outlier.
For 5% significance level, 0.029 is not an outlier.
For 1% significance level, 0.029 is not an outlier.

2. Observation Value 0.0057 is a Potential Outlier (Lower Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.44

Test Statistic: 0.144

For 10% significance level, 0.0057 is not an outlier.
For 5% significance level, 0.0057 is not an outlier.
For 1% significance level, 0.0057 is not an outlier.

Dixon's Outlier Test for Molybdenum (m-57a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

1. Observation Value 0.022 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.515

For 10% significance level, 0.022 is an outlier.
For 5% significance level, 0.022 is an outlier.
For 1% significance level, 0.022 is not an outlier.

2. Observation Value 0.0011 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.138

For 10% significance level, 0.0011 is not an outlier.
For 5% significance level, 0.0011 is not an outlier.
For 1% significance level, 0.0011 is not an outlier.

Dixon's Outlier Test for Molybdenum (m-58a)

Number of Observations = 21
10% critical value: 0.391
5% critical value: 0.44
1% critical value: 0.524

Appendix B
Outlier Statistics

5% critical value: 0.44							
1. Observation Value 0.02 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.832							
For 10% significance level, 0.02 is an outlier.							
For 5% significance level, 0.02 is an outlier.							
For 1% significance level, 0.02 is an outlier.							
2. Observation Value 0.0014 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.061							
For 10% significance level, 0.0014 is not an outlier.							
For 5% significance level, 0.0014 is not an outlier.							
For 1% significance level, 0.0014 is not an outlier.							
Dixon's Outlier Test for Total Radium (m-56a)							
Number of Observations = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Observation Value 1.9 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.143							
For 10% significance level, 1.9 is not an outlier.							
For 5% significance level, 1.9 is not an outlier.							
For 1% significance level, 1.9 is not an outlier.							
2. Observation Value 0.4 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.077							
For 10% significance level, 0.4 is not an outlier.							
For 5% significance level, 0.4 is not an outlier.							
For 1% significance level, 0.4 is not an outlier.							

Appendix B
Outlier Statistics

5% critical value: 0.44

Dixon's Outlier Test for Total Radium (m-57a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 1.5 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.667

For 10% significance level, 1.5 is an outlier.
For 5% significance level, 1.5 is an outlier.
For 1% significance level, 1.5 is an outlier.

2. Observation Value 0.4 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.400

For 10% significance level, 0.4 is not an outlier.
For 5% significance level, 0.4 is not an outlier.
For 1% significance level, 0.4 is not an outlier.

Dixon's Outlier Test for Total Radium (m-58a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 2.6 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.350

For 10% significance level, 2.6 is not an outlier.
For 5% significance level, 2.6 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.44
For 1% significance level, 2.6 is not an outlier.

2. Observation Value 0.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.071

For 10% significance level, 0.5 is not an outlier.
For 5% significance level, 0.5 is not an outlier.
For 1% significance level, 0.5 is not an outlier.

Appendix B
Summary Statistics

User Selected Options	
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF

From File: Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls

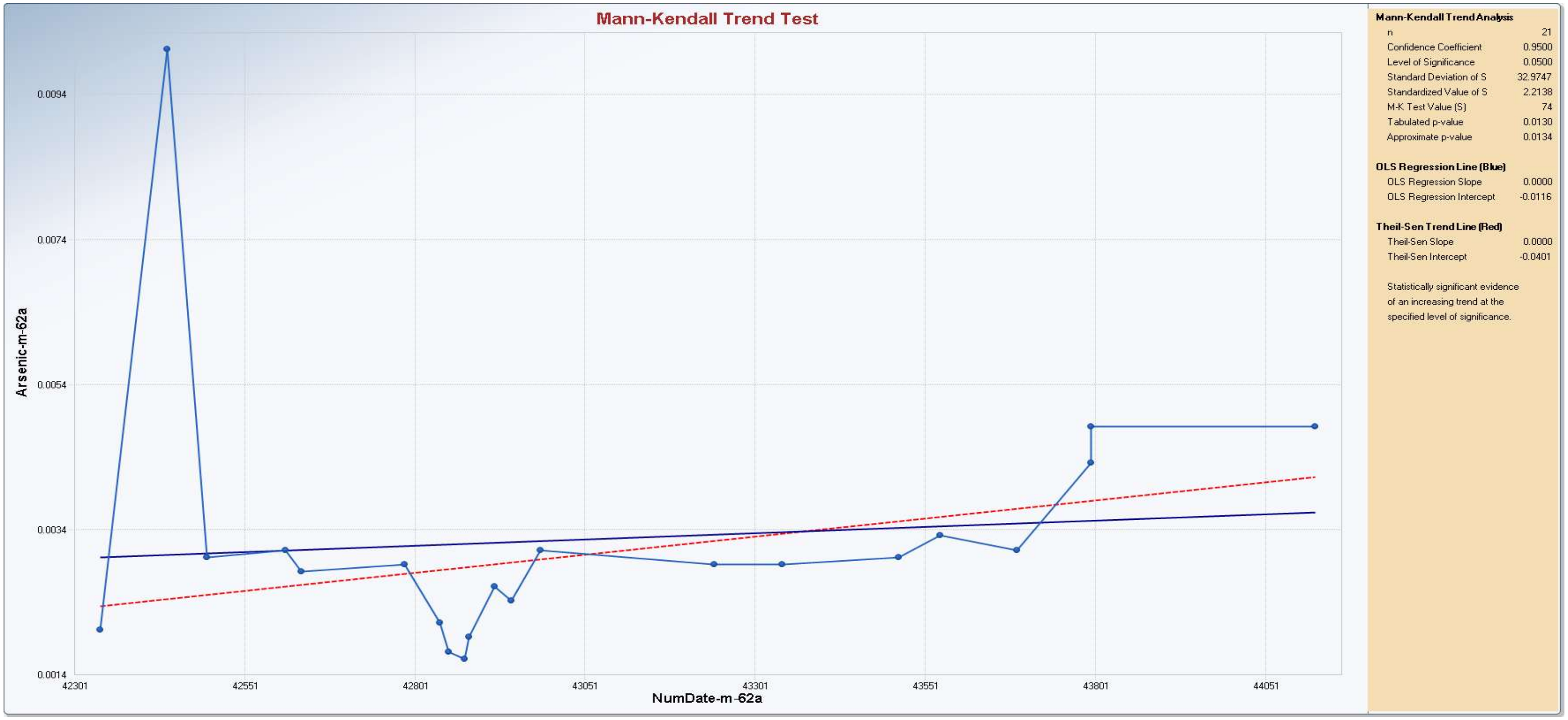
General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Antimony (m-56a)	17	5	1	16	94.12%	1.0000E-4	0.05	1.1500E-4	2.250E-10	1.5000E-5	0.13
Antimony (m-57a)	17	6	1	16	94.12%	1.0000E-4	0.05	1.1000E-4	1.000E-10	1.0000E-5	0.0909
Antimony (m-58a)	17	5	0	17	100.00%	1.0000E-4	0.05	N/A	N/A	N/A	N/A
Arsenic (m-56a)	21	1	17	4	19.05%	0.001	0.01	0.00221	7.6465E-6	0.00277	1.249
Arsenic (m-57a)	21	2	21	0	0.00%	N/A	N/A	0.00477	1.7864E-5	0.00423	0.887
Arsenic (m-58a)	21	1	20	1	4.76%	0.01	0.01	0.00416	9.0548E-7	9.5156E-4	0.229
Barium (m-56a)	21	1	21	0	0.00%	N/A	N/A	0.0693	1.0191E-4	0.0101	0.146
Barium (m-57a)	21	2	21	0	0.00%	N/A	N/A	0.0461	6.7429E-5	0.00821	0.178
Barium (m-58a)	21	1	21	0	0.00%	N/A	N/A	0.0703	2.9881E-4	0.0173	0.246
Beryllium (m-56a)	17	5	0	17	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Beryllium (m-57a)	17	6	0	17	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Beryllium (m-58a)	17	5	0	17	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Cadmium (m-56a)	17	5	0	17	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Cadmium (m-57a)	17	6	0	17	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Cadmium (m-58a)	17	5	0	17	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Chromium (m-56a)	21	1	17	4	19.05%	5.0000E-4	0.01	0.0108	2.8079E-4	0.0168	1.559
Chromium (m-57a)	22	1	19	3	13.64%	5.0000E-4	0.01	0.0229	0.0011	0.0331	1.443
Chromium (m-58a)	21	1	8	13	61.90%	5.0000E-4	0.01	0.00101	6.8633E-7	8.2845E-4	0.819
Cobalt (m-56a)	21	1	13	8	38.10%	5.0000E-4	0.0025	8.8533E-4	1.5829E-7	3.9786E-4	0.449
Cobalt (m-57a)	21	2	21	0	0.00%	N/A	N/A	0.00656	3.7146E-6	0.00193	0.294
Cobalt (m-58a)	21	1	6	15	71.43%	5.0000E-4	0.01	6.1444E-4	4.0474E-8	2.0118E-4	0.327
Fluoride (m-56a)	21	1	8	13	61.90%	0.4	0.8	0.416	7.8754E-4	0.0281	0.0674
Fluoride (m-57a)	21	2	2	19	90.48%	0.4	0.8	0.408	8.9167E-4	0.0299	0.0731
Fluoride (m-58a)	21	1	1	20	95.24%	0.4	0.8	0.402	4.9827E-5	0.00706	0.0176
Lead (m-56a)	17	5	0	17	100.00%	1.0000E-4	0.01	N/A	N/A	N/A	N/A
Lead (m-57a)	17	6	2	15	88.24%	5.0000E-4	0.01	2.6909E-4	3.4917E-8	1.8686E-4	0.694
Lead (m-58a)	17	5	4	13	76.47%	1.0000E-4	0.01	3.0903E-4	1.0490E-7	3.2388E-4	1.048
Lithium (m-56a)	18	4	1	17	94.44%	0.2	1	0.097	0	0	N/A

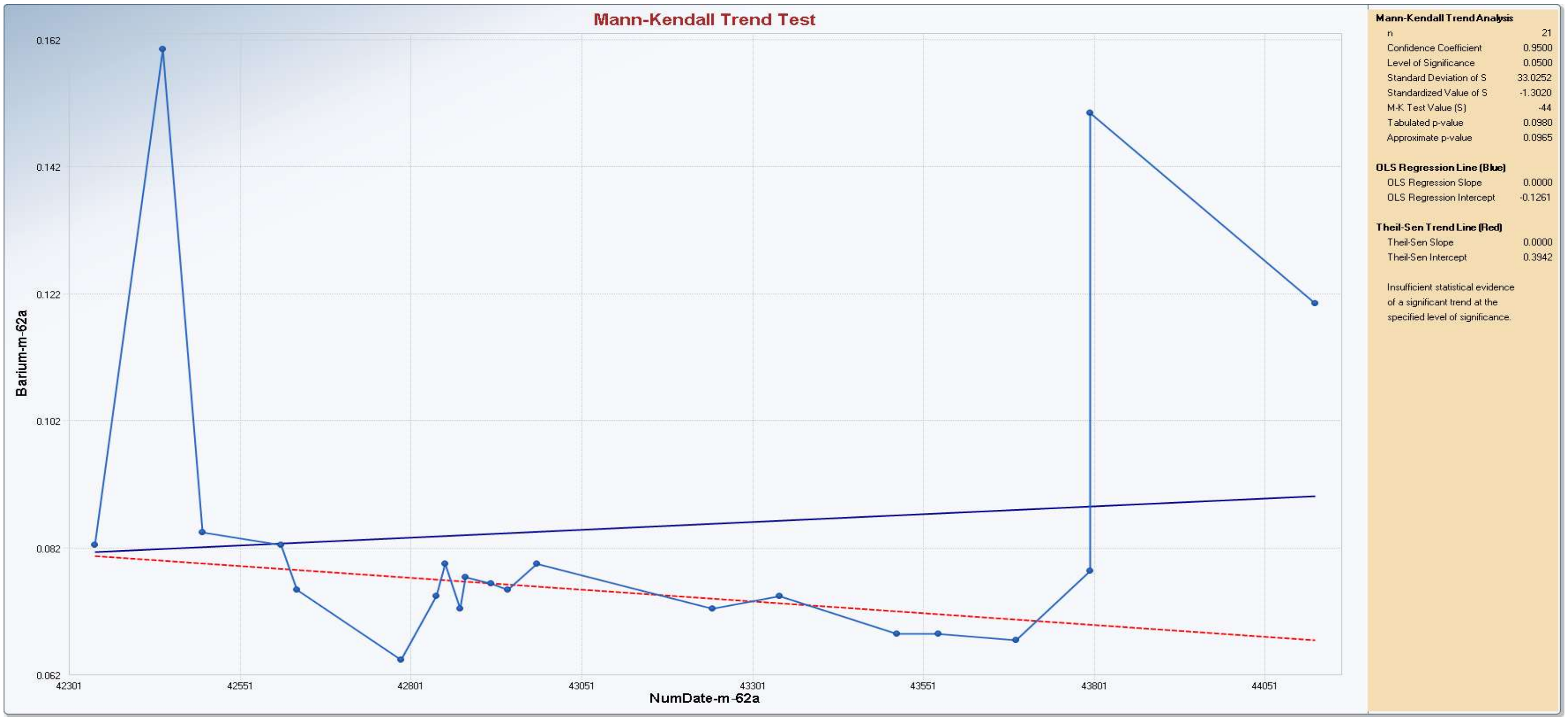
Appendix B
Summary Statistics

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Lithium (m-57a)	18	5	1	17	94.44%	0.2	1	0.092	0	0	N/A
Lithium (m-58a)	18	4	1	17	94.44%	0.2	1	0.07	0	0	N/A
Mercury (m-56a)	17	5	0	17	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
Mercury (m-57a)	17	6	0	17	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
Mercury (m-58a)	17	5	0	17	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
lolybdenum (m-56a)	21	1	21	0	0.00%	N/A	N/A	0.0123	3.2571E-5	0.00571	0.463
lolybdenum (m-57a)	21	2	20	1	4.76%	0.0025	0.0025	0.00621	2.6291E-5	0.00513	0.826
lolybdenum (m-58a)	21	1	18	3	14.29%	0.0018	0.01	0.00283	1.5198E-5	0.0039	1.377
otal Radium (m-56a)	18	4	12	6	33.33%	0.4	1.2	0.943	0.286	0.535	0.567
otal Radium (m-57a)	18	5	5	13	72.22%	0.4	0.9	0.578	0.0767	0.277	0.479
otal Radium (m-58a)	18	4	9	9	50.00%	0.6	0.9	0.903	0.405	0.637	0.705
Selenium (m-56a)	17	5	4	13	76.47%	5.0000E-4	0.01	3.9725E-4	1.2615E-8	1.1232E-4	0.283
Selenium (m-57a)	17	6	2	15	88.24%	5.0000E-4	0.01	3.2636E-4	1.3223E-8	1.1499E-4	0.352
Selenium (m-58a)	17	5	1	16	94.12%	5.0000E-4	0.01	2.4000E-4	0	0	N/A
Thallium (m-56a)	21	1	1	20	95.24%	1.0000E-4	0.002	1.0125E-4	2.344E-11	4.8412E-6	0.0478
Thallium (m-57a)	21	2	0	21	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Thallium (m-58a)	21	1	0	21	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
lolybdenum (m-57a)	20	1	19	1	5.00%	0.0025	0.0025	0.00562	2.0308E-5	0.00451	0.802
lolybdenum (m-58a)	20	1	17	3	15.00%	0.0018	0.01	0.00289	1.5893E-5	0.00399	1.381
lolybdenum (m-62a)	19	2	17	2	10.53%	0.0026	0.0028	0.00294	4.0048E-6	0.002	0.68
otal Radium (m-56a)	17	4	12	5	29.41%	0.4	1.2	0.967	0.292	0.54	0.559
otal Radium (m-57a)	17	4	5	12	70.59%	0.4	0.9	0.583	0.0803	0.283	0.486
otal Radium (m-58a)	17	4	8	9	52.94%	0.6	0.9	0.978	0.377	0.614	0.628
otal Radium (m-62a)	16	5	13	3	18.75%	0.7	0.8	0.971	0.182	0.426	0.439
Selenium (m-56a)	16	5	4	12	75.00%	5.0000E-4	0.01	3.9725E-4	1.2615E-8	1.1232E-4	0.283
Selenium (m-57a)	16	5	2	14	87.50%	5.0000E-4	0.01	3.2636E-4	1.3223E-8	1.1499E-4	0.352
Selenium (m-58a)	16	5	1	15	93.75%	5.0000E-4	0.01	2.4000E-4	0	0	N/A
Selenium (m-62a)	16	5	2	14	87.50%	5.0000E-4	0.01	5.4455E-4	9.1521E-9	9.5666E-5	0.176
Thallium (m-56a)	20	1	1	19	95.00%	1.0000E-4	0.002	1.0125E-4	2.344E-11	4.8412E-6	0.0478
Thallium (m-57a)	20	1	0	20	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Thallium (m-58a)	20	1	0	20	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Thallium (m-62a)	19	2	1	18	94.74%	1.0000E-4	5.0000E-4	1.2105E-4	7.9778E-9	8.9319E-5	0.738

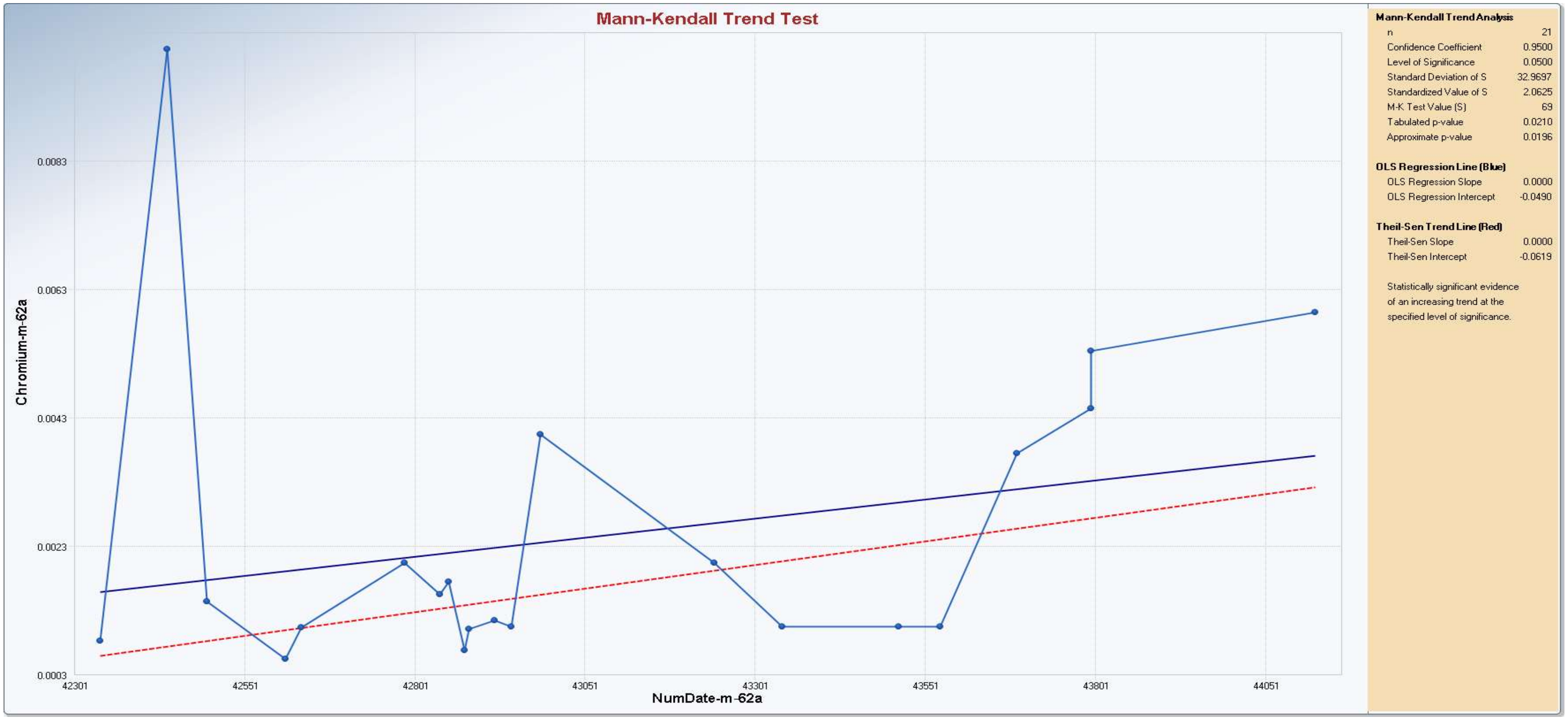
Appendix B
Time Series Plots



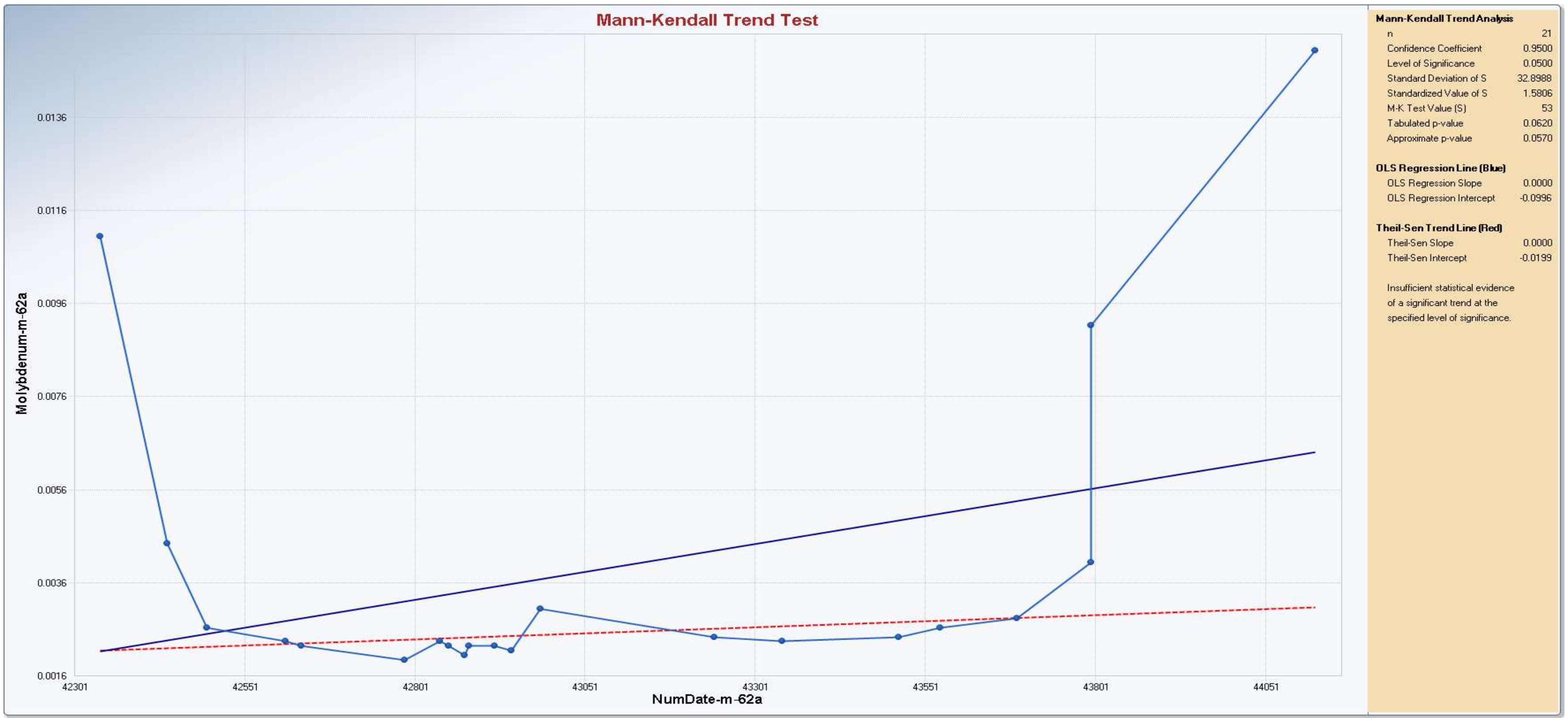
Appendix B
Time Series Plots



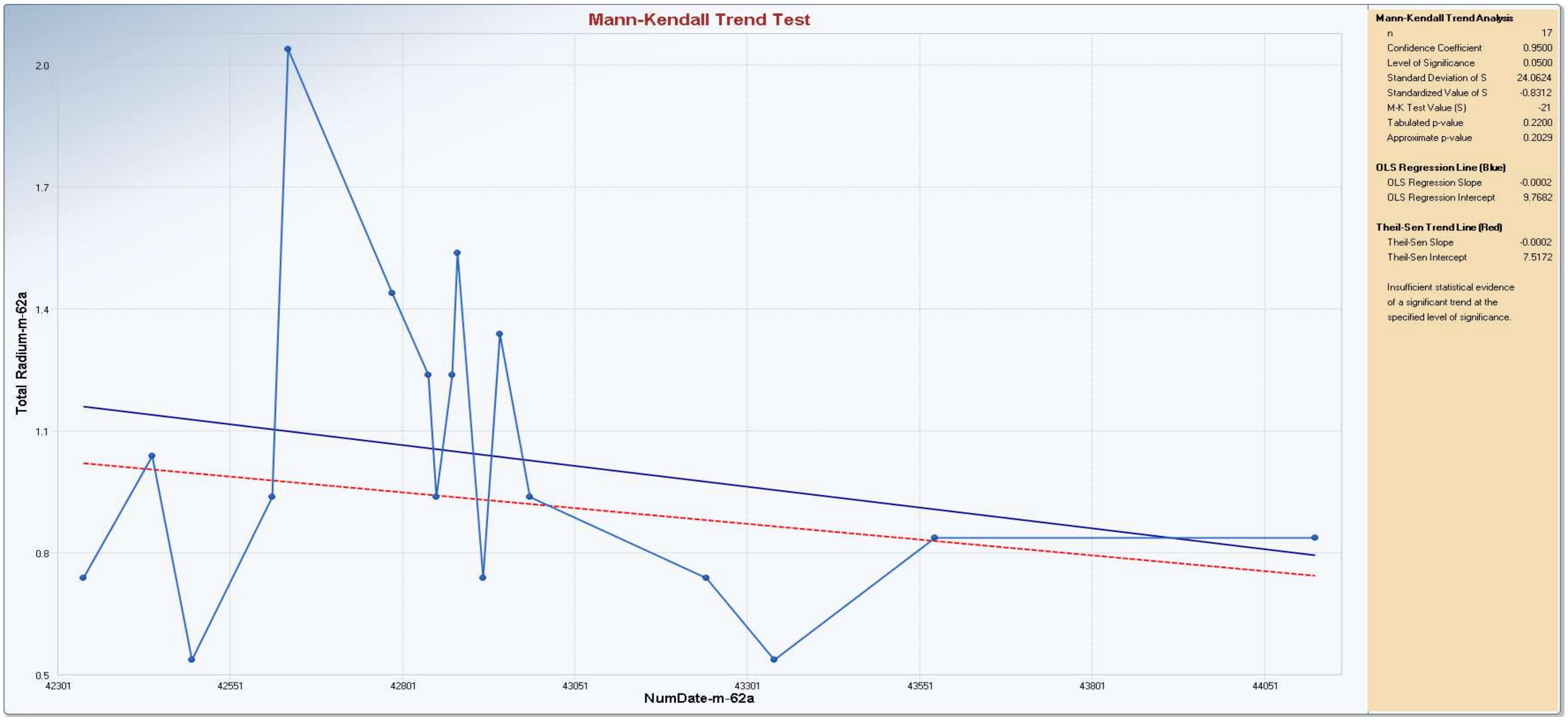
Appendix B
Time Series Plots



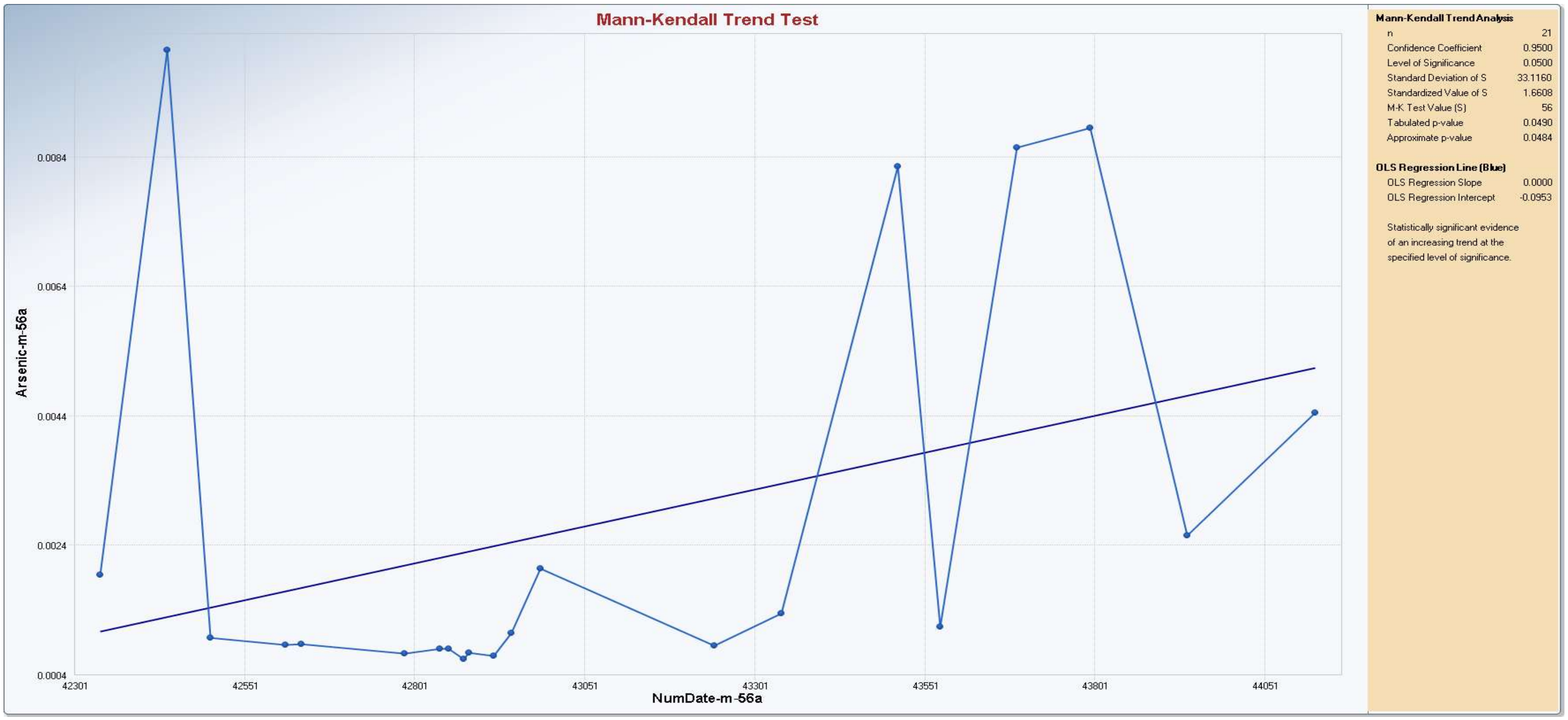
Appendix B
Time Series Plots



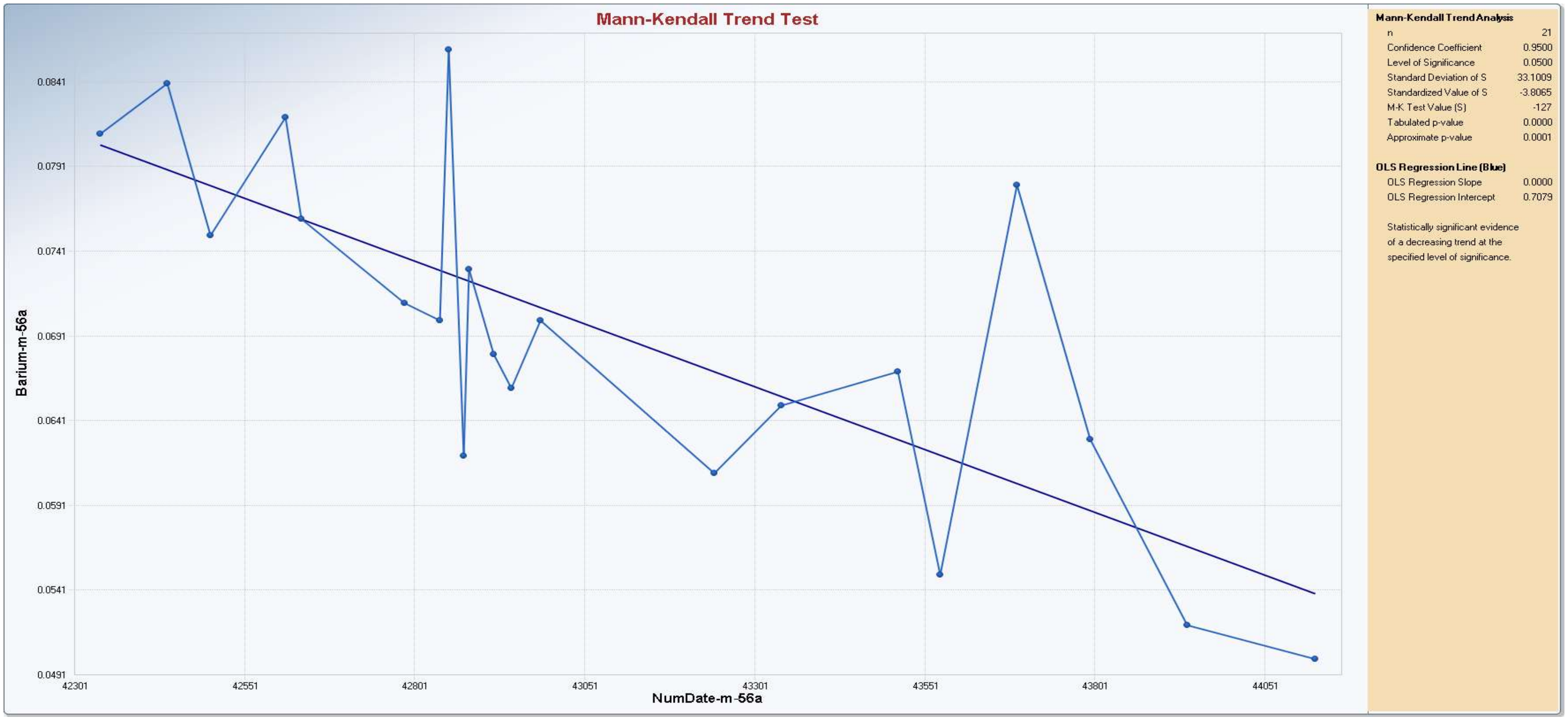
Appendix B
Time Series Plots



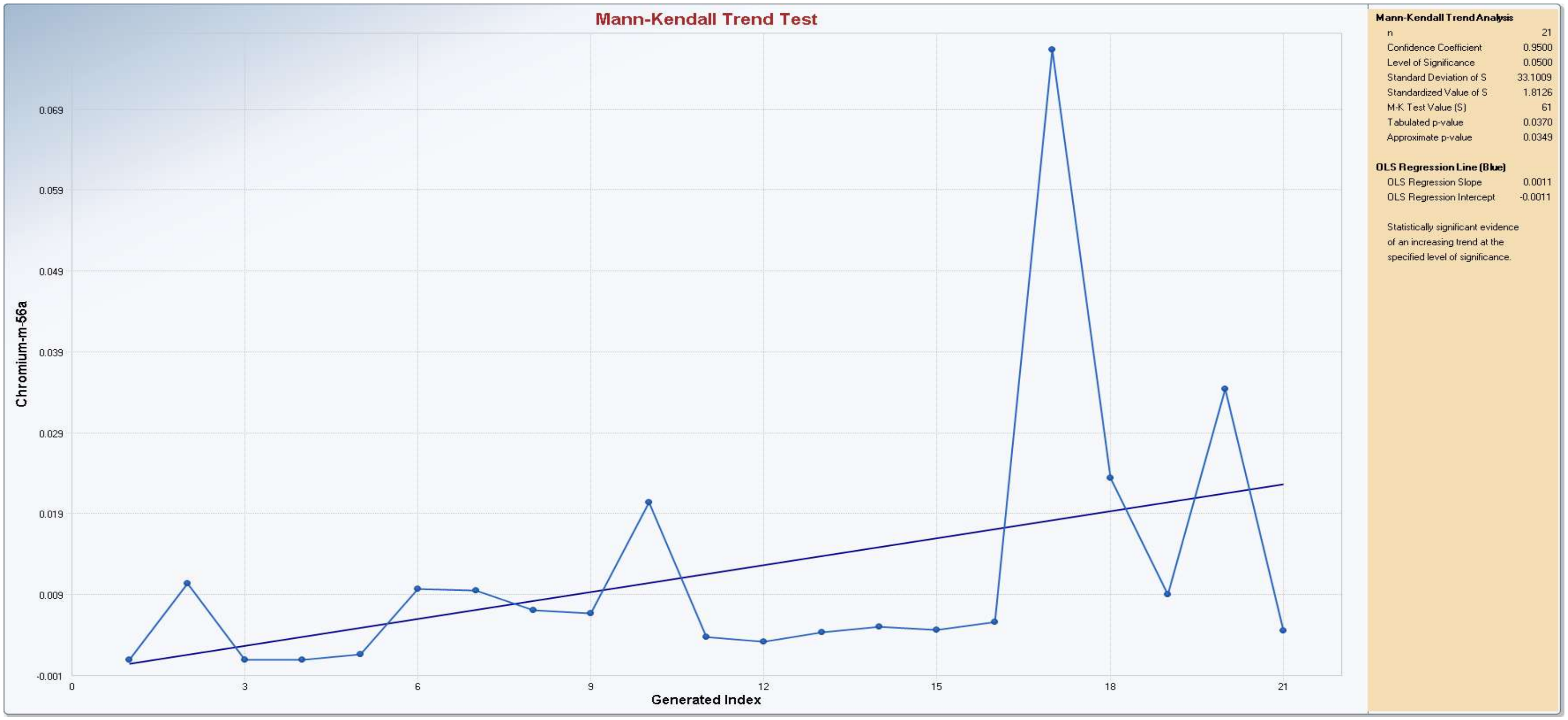
Appendix B
Time Series Plots



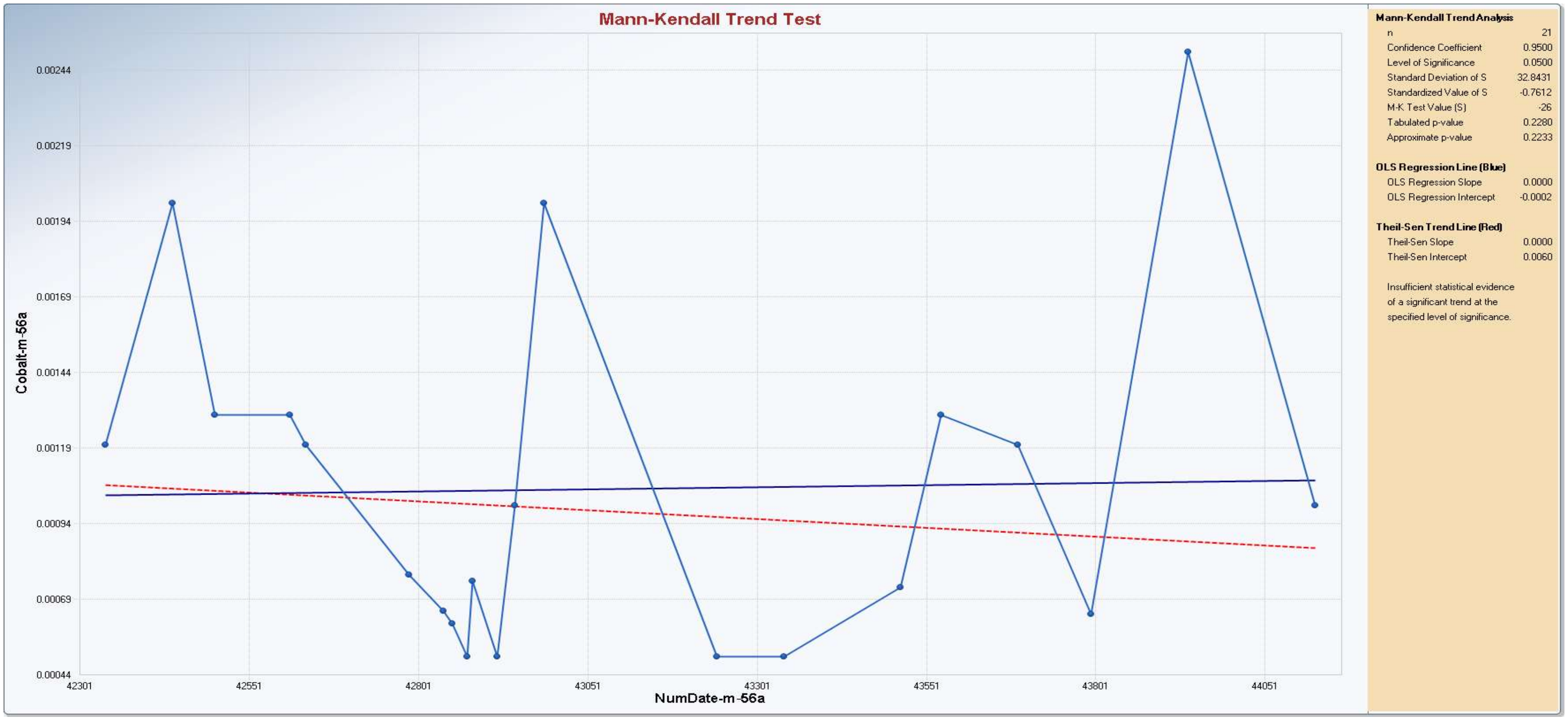
Appendix B
Time Series Plots



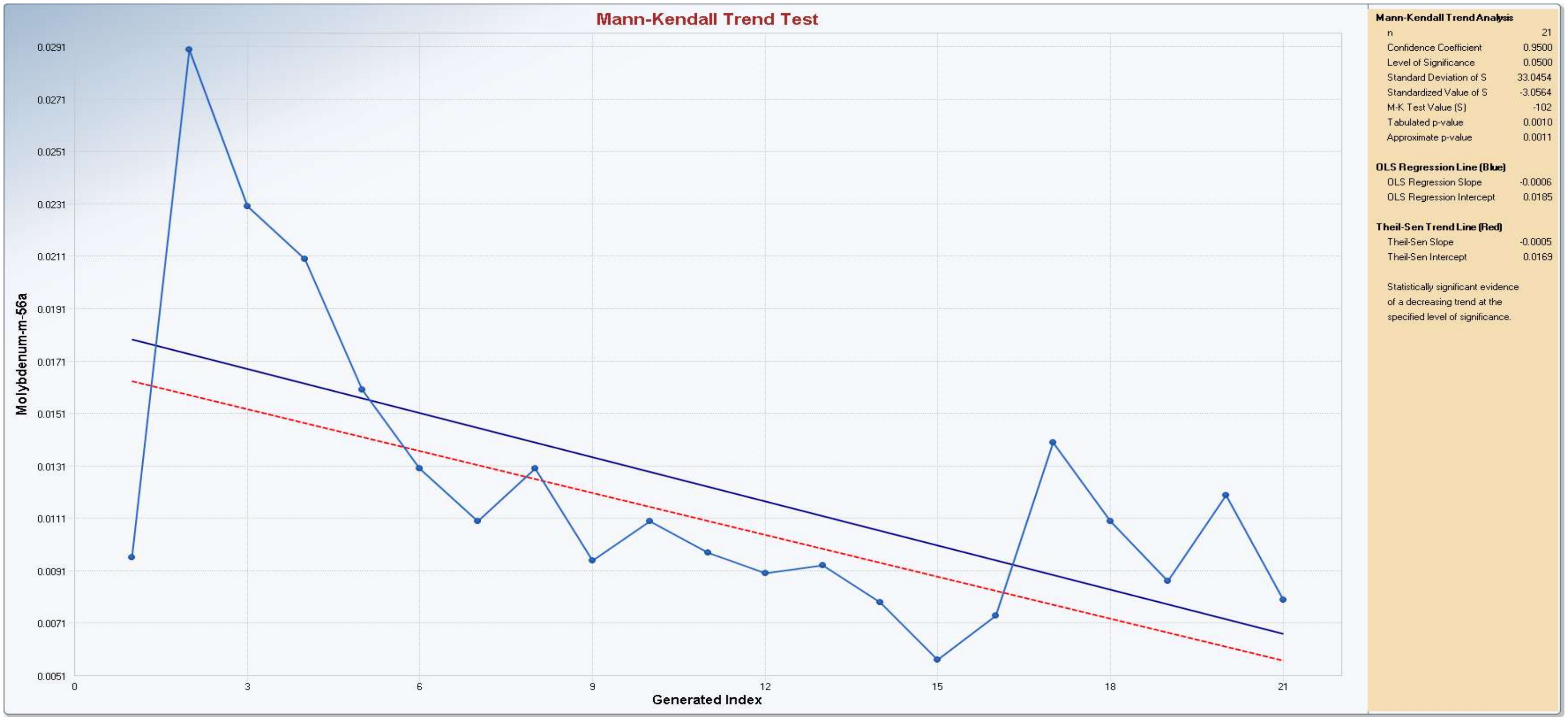
Appendix B
Time Series Plots



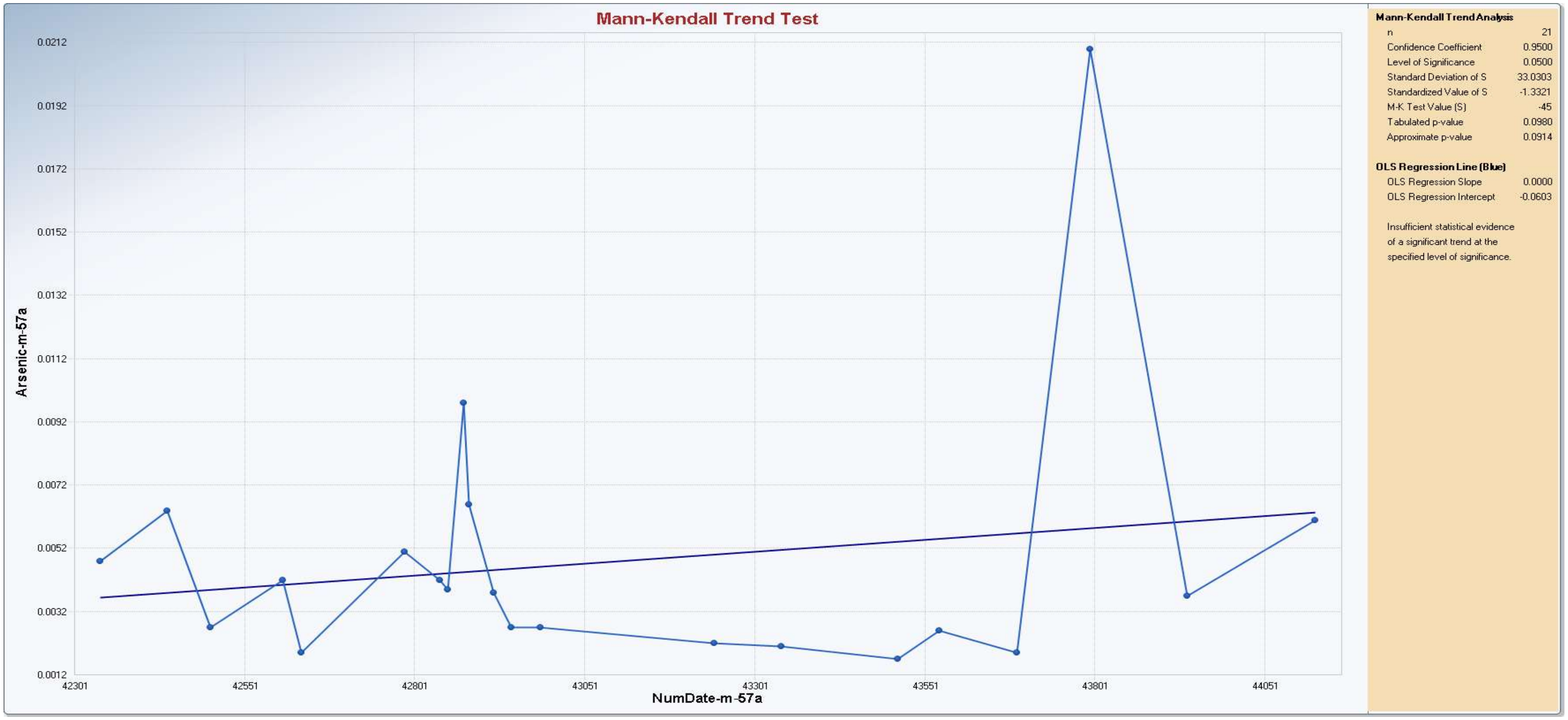
Appendix B
Time Series Plots



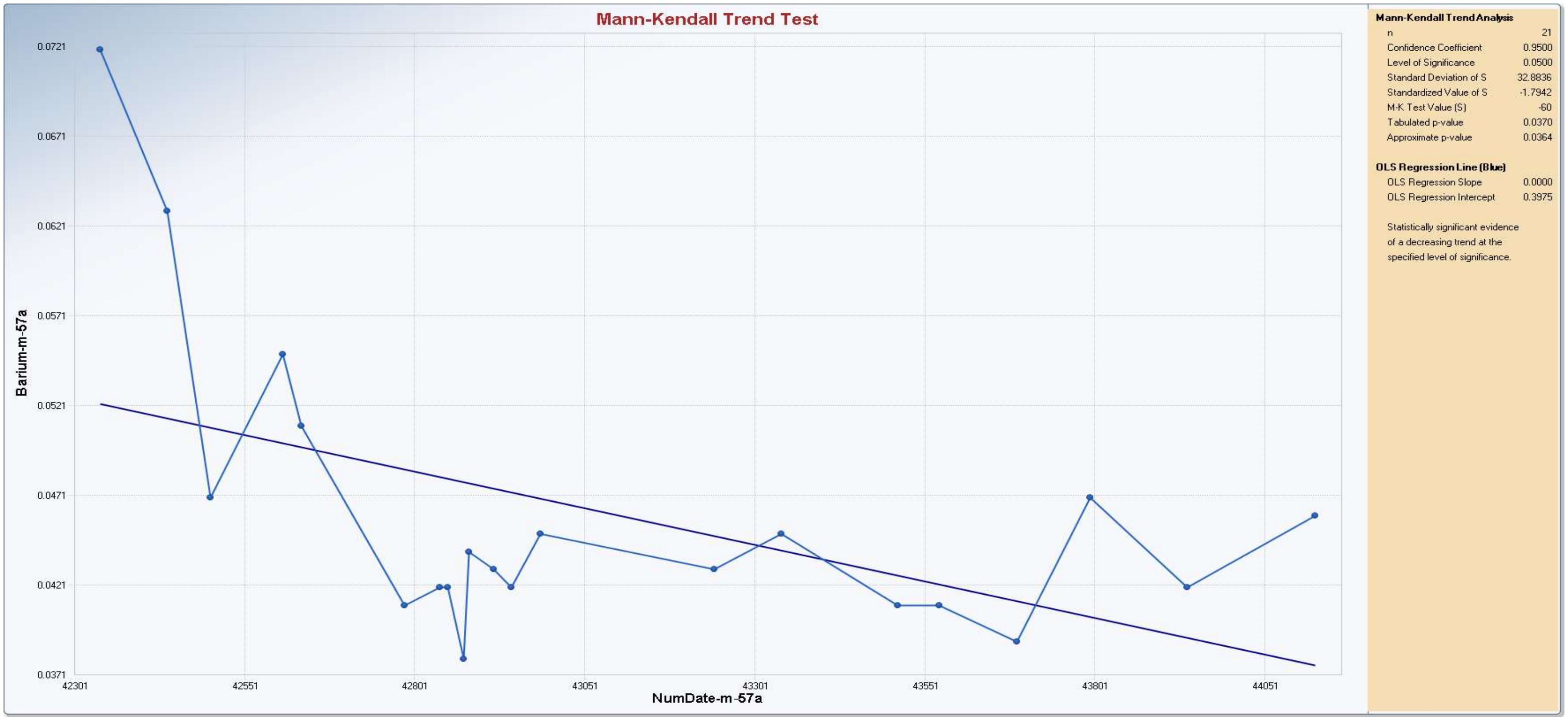
Appendix B
Time Series Plots



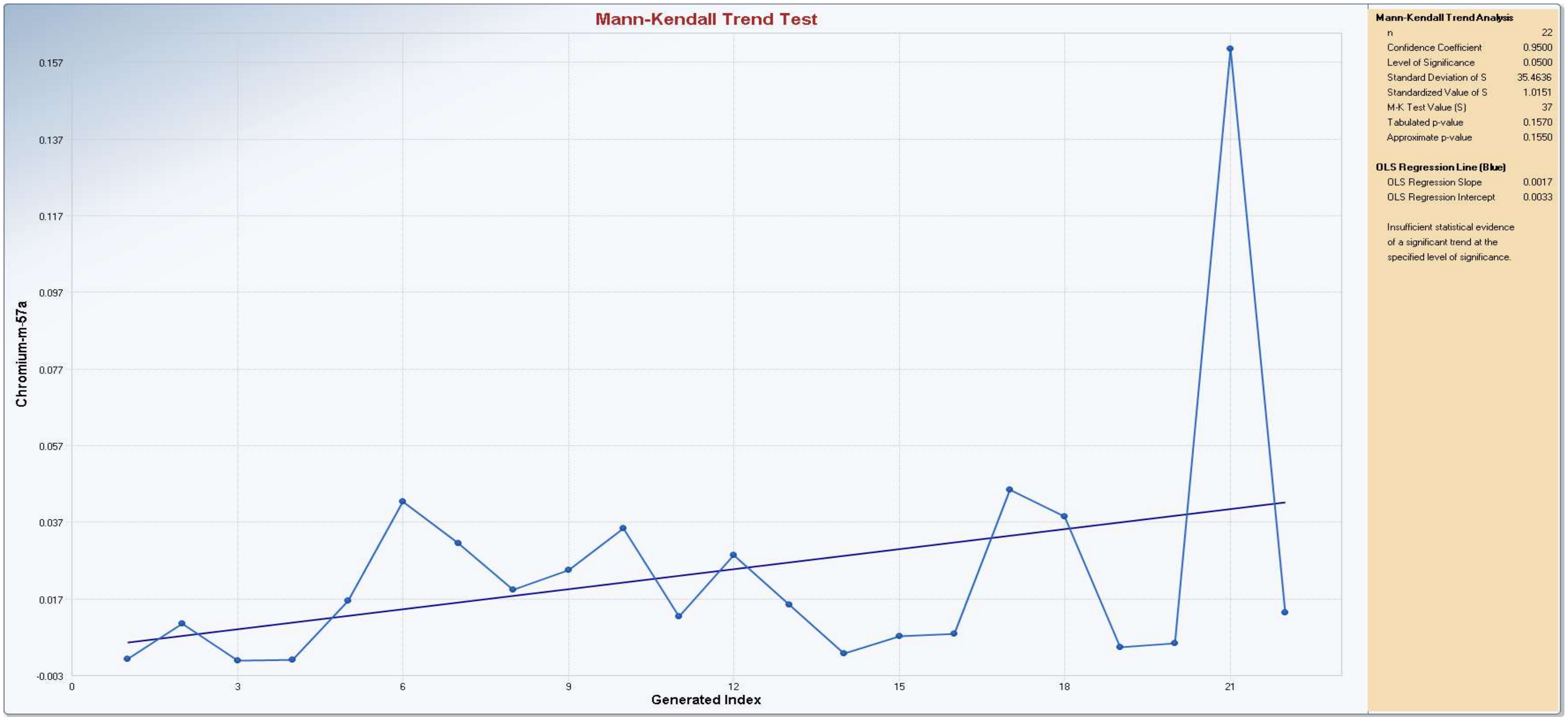
Appendix B
Time Series Plots



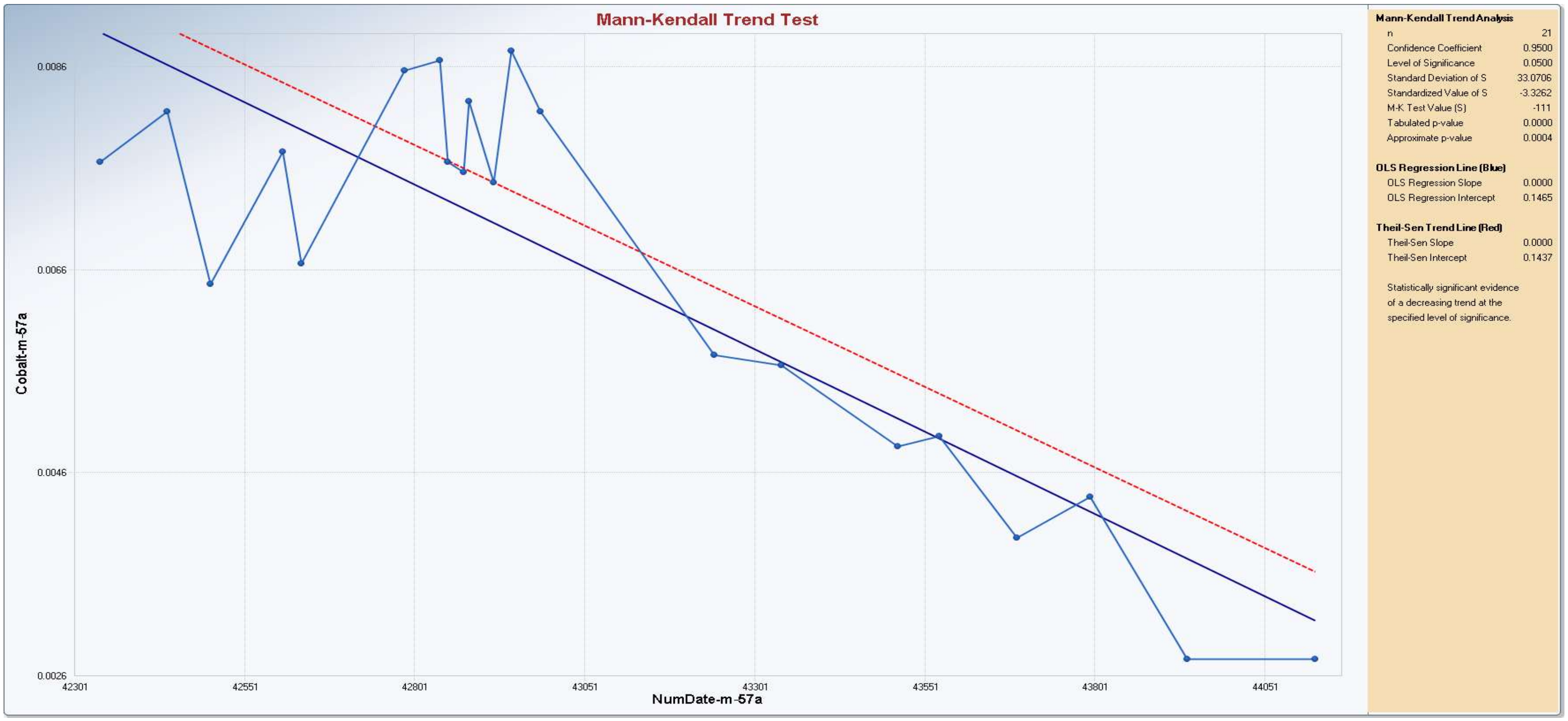
Appendix B
Time Series Plots



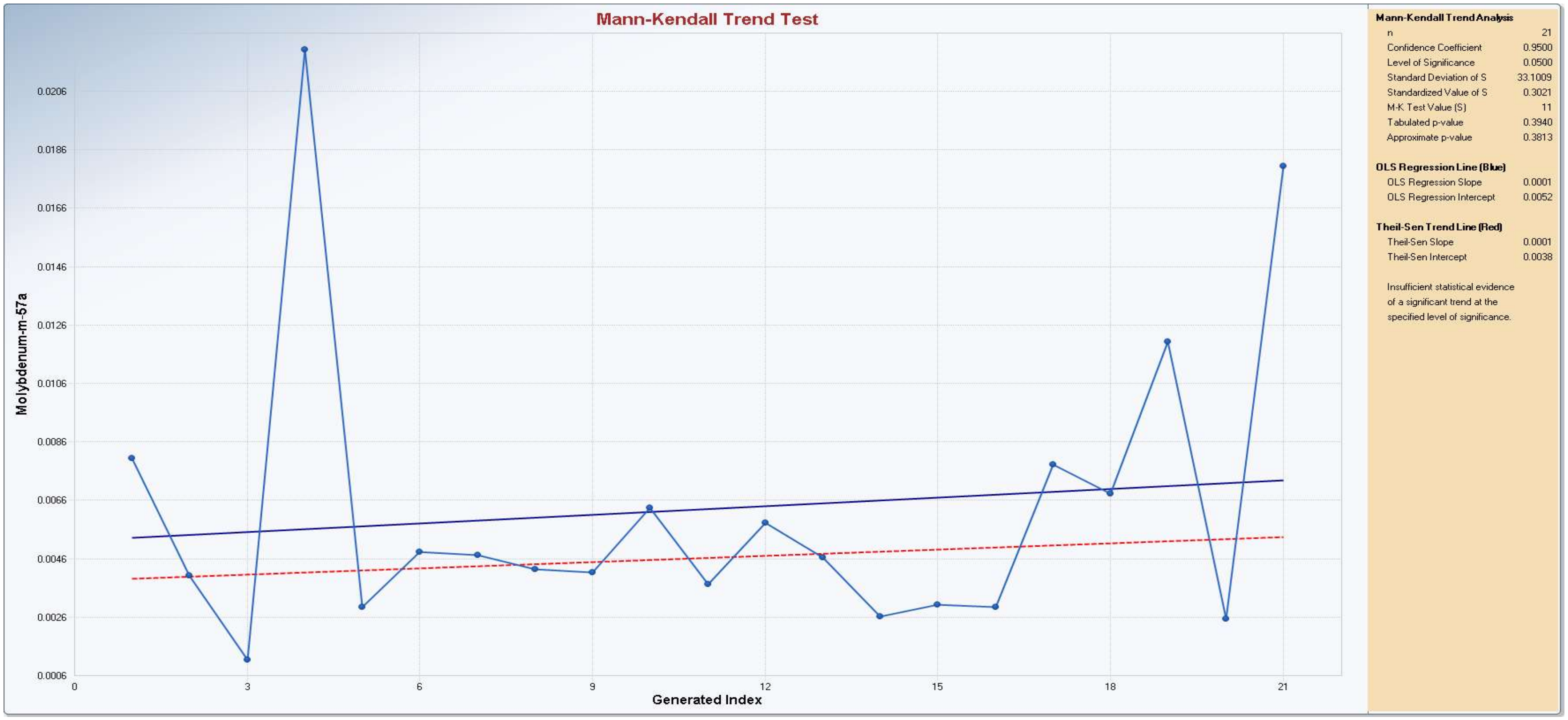
Appendix B
Time Series Plots



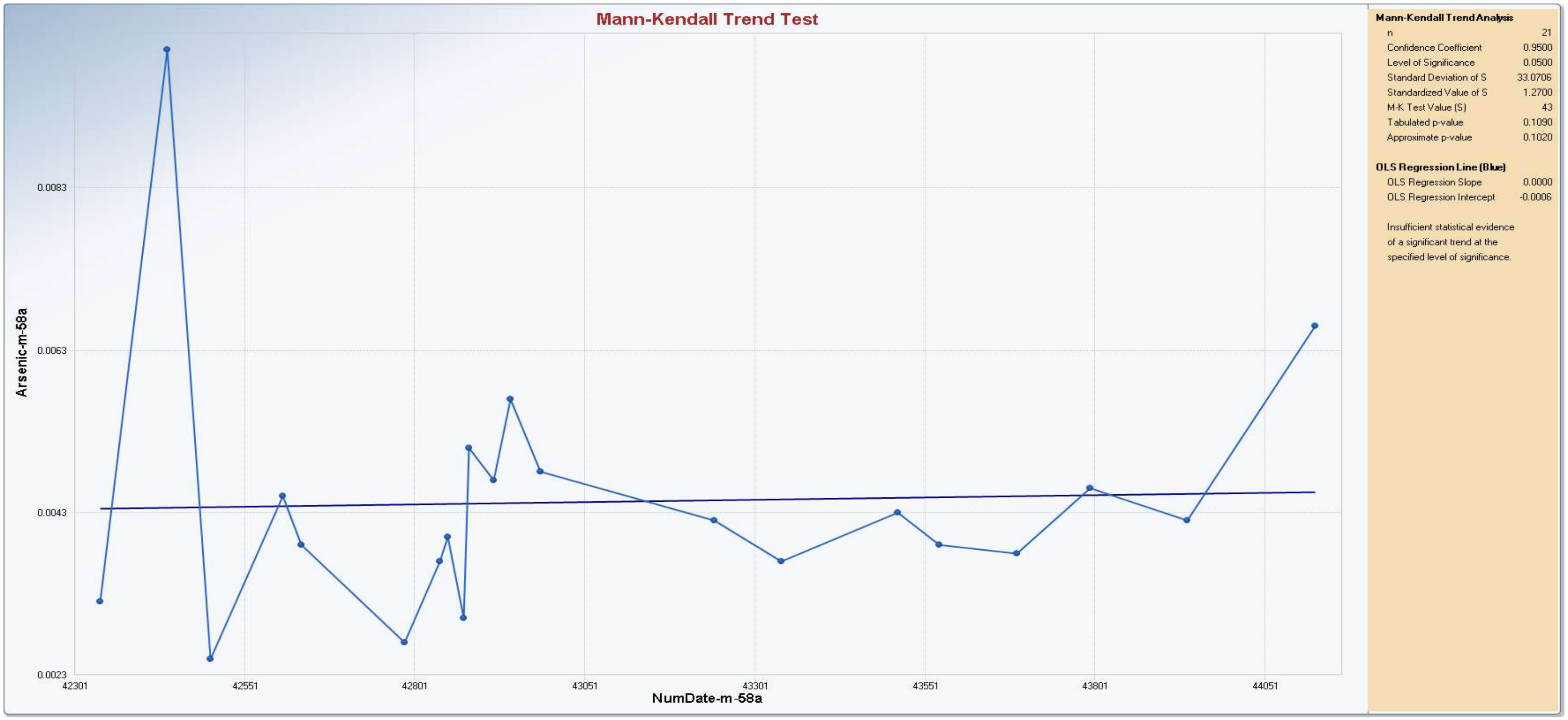
Appendix B
Time Series Plots



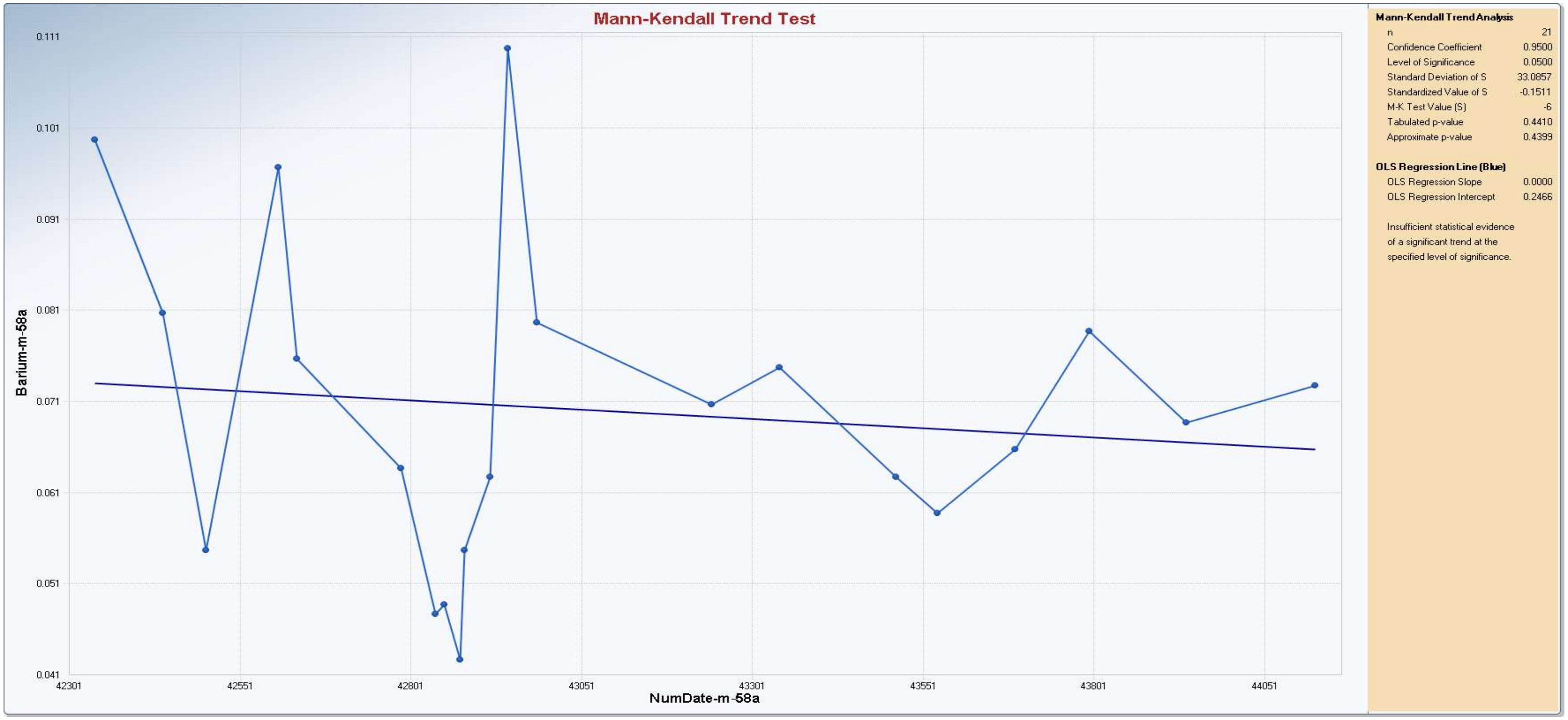
Appendix B
Time Series Plots



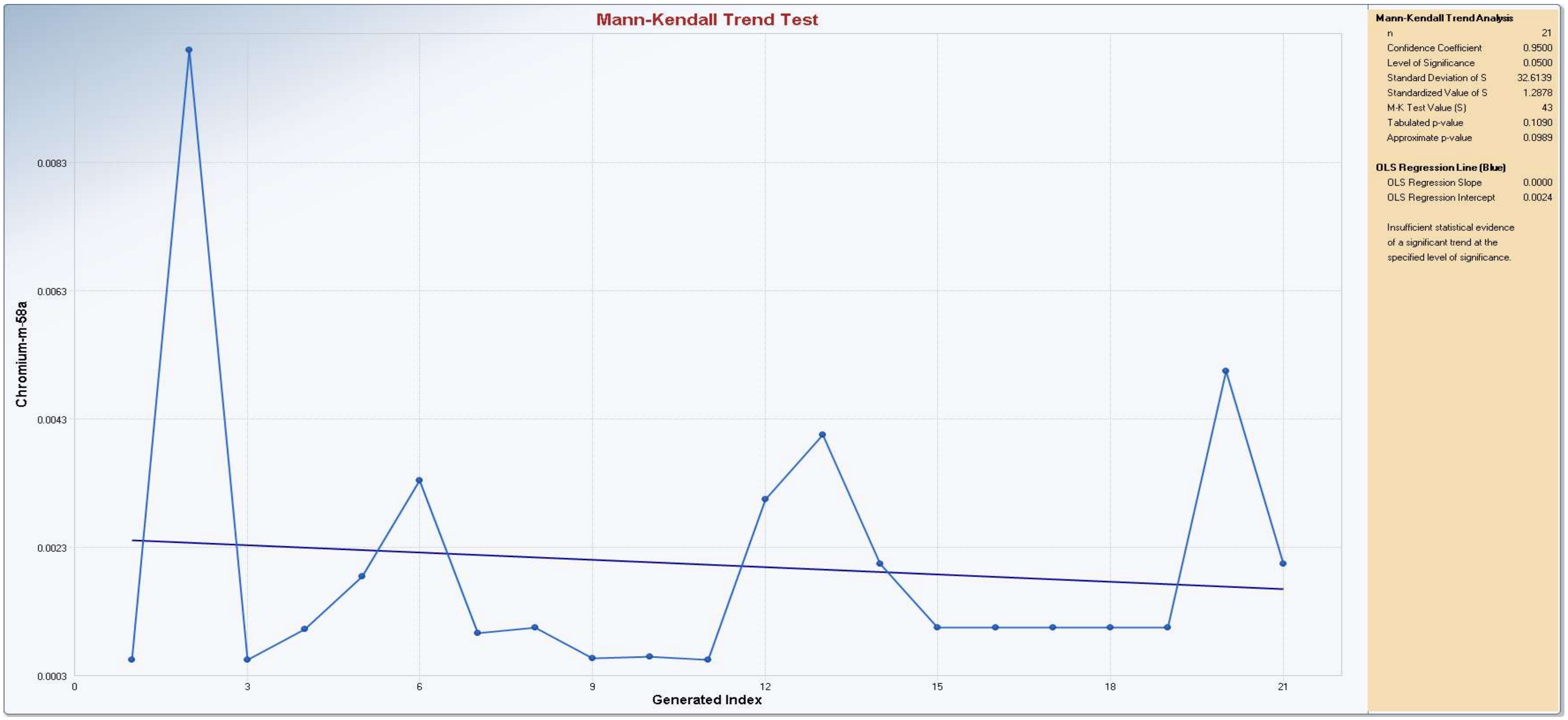
Appendix B
Time Series Plots



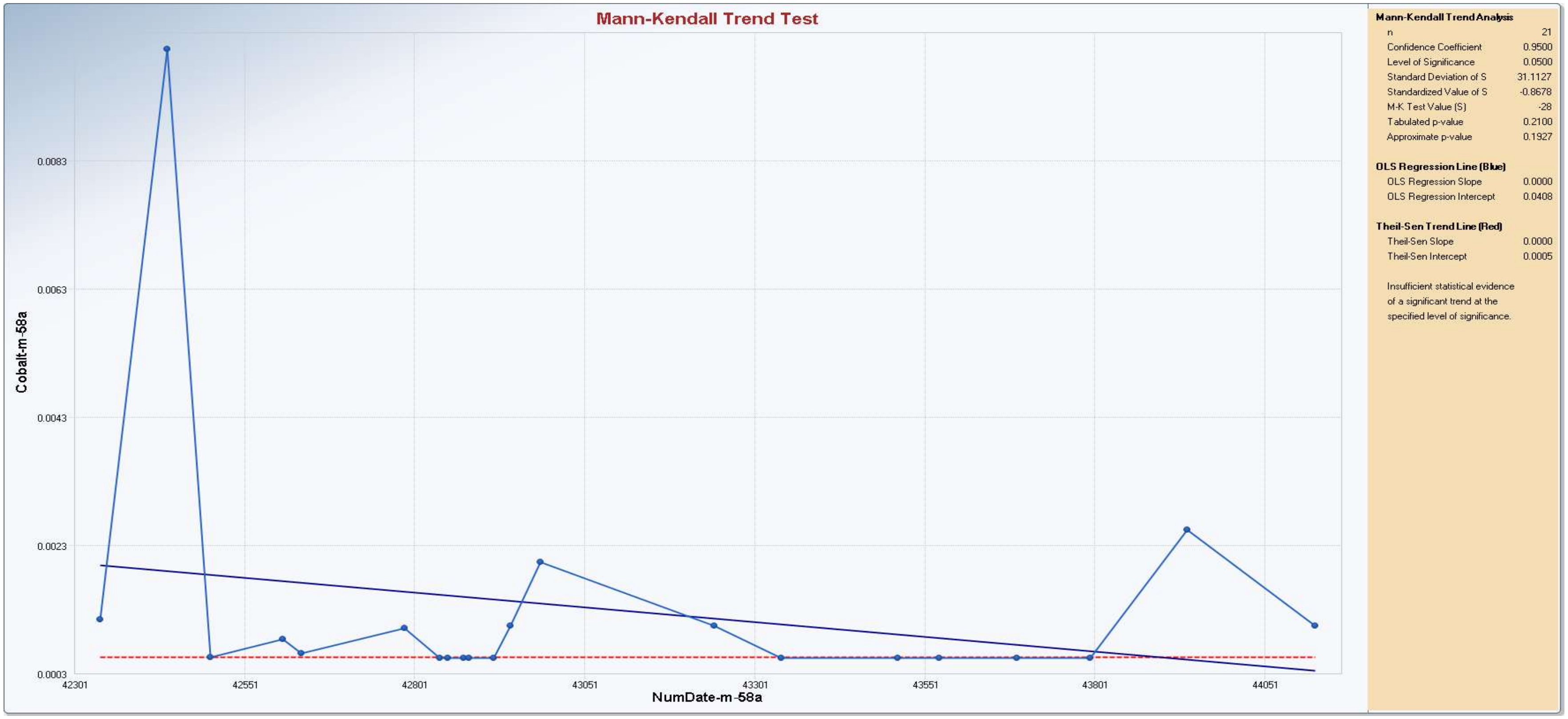
Appendix B
Time Series Plots



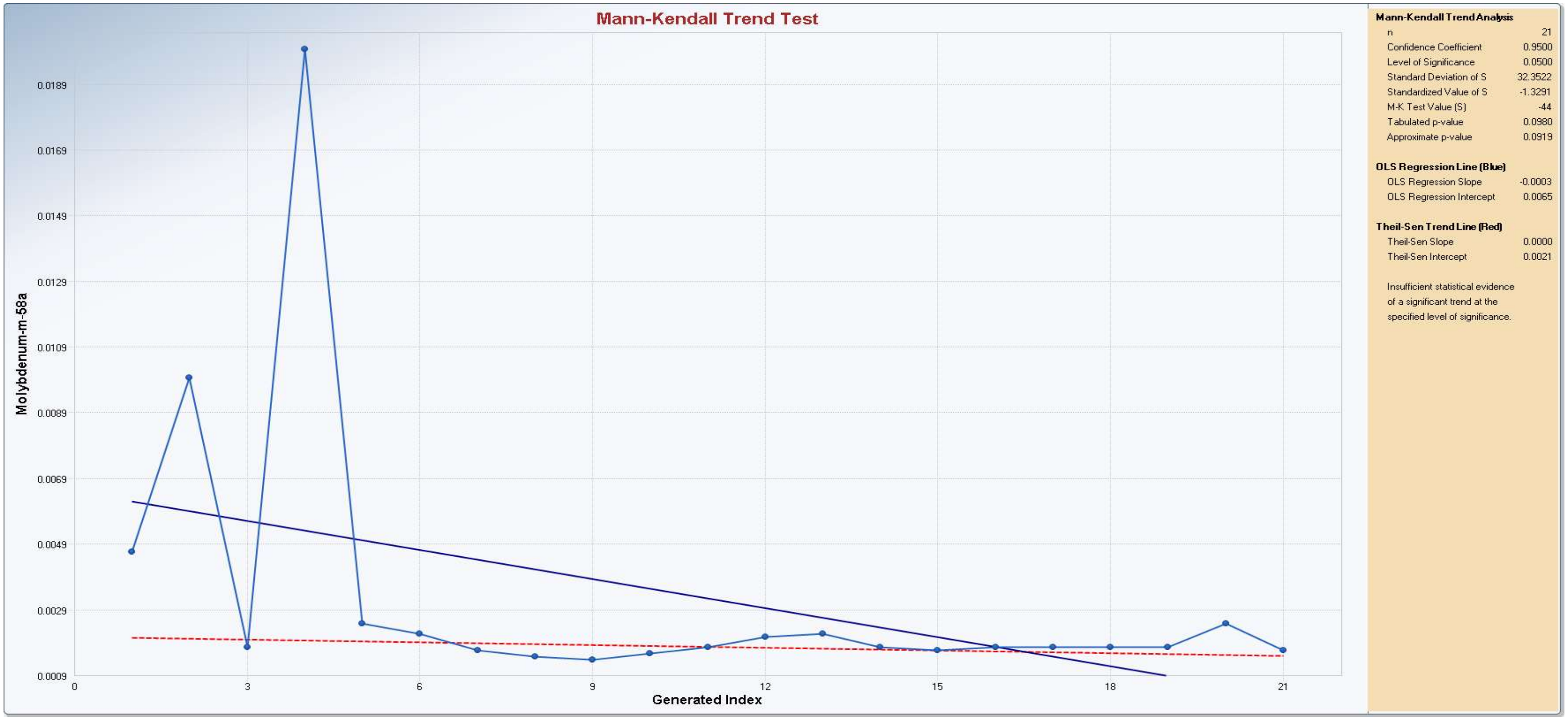
Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/15/2021 10:21:28 AM
From File	Cholla_SEDI_ProUCL_Q12021ApplV_20210315v1_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Arsenic-m-62a

General Statistics

Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.0016
Maximum	0.01
Mean	0.00325
Geometric Mean	0.00296
Median	0.0029
Standard Deviation	0.00178
Coefficient of Variation	0.547

Mann-Kendall Test

M-K Test Value (S)	74
Tabulated p-value	0.013
Standard Deviation of S	32.97
Standardized Value of S	2.214
Approximate p-value	0.0134

Statistically significant evidence of an increasing
trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/15/2021 10:25:26 AM
From File	Cholla_SEDI_ProUCL_Q12021ApplV_20210315v1_a.xls
Full Precision	OFF

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Confidence Coefficient	0.95
Level of Significance	0.05
Barium-m-62a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.064
Maximum	0.16
Mean	0.0846
Geometric Mean	0.0818
Median	0.076
Standard Deviation	0.026
Coefficient of Variation	0.307
Mann-Kendall Test	
M-K Test Value (S)	-44
Tabulated p-value	0.098
Standard Deviation of S	33.03
Standardized Value of S	-1.302
Approximate p-value	0.0965
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/15/2021 10:28:35 AM
From File	Cholla_SEDI_ProUCL_Q12021ApplV_20210315v1_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chromium-m-62a	

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	5.0000E-4
Maximum	0.01
Mean	0.00242
Geometric Mean	0.00171
Median	0.0014
Standard Deviation	0.00237
Coefficient of Variation	0.978
Mann-Kendall Test	
M-K Test Value (S)	69
Tabulated p-value	0.021
Standard Deviation of S	32.97
Standardized Value of S	2.063
Approximate p-value	0.0196
Statistically significant evidence of an increasing trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/15/2021 10:35:53 AM
From File	Cholla_SEDI_ProUCL_Q12021ApplV_20210315v1_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Molybdenum-m-62a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.0019
Maximum	0.015
Mean	0.00386
Geometric Mean	0.00309
Median	0.0024
Standard Deviation	0.00347
Coefficient of Variation	0.9
Mann-Kendall Test	
M-K Test Value (S)	53
Tabulated p-value	0.062
Standard Deviation of S	32.9
Standardized Value of S	1.581
Approximate p-value	0.057

Insufficient evidence to identify a significant trend at the specified level of significance.

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2021 1:15:37 PM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_b.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Total Radium-m-62a

General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	5
Number or Reported Events Used	17
Number Values Reported (n)	22
Number Values Missing	5
Number Values Used	17

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Minimum	0.5
Maximum	2
Mean	1
Geometric Mean	0.934
Median	0.9
Standard Deviation	0.392
Coefficient of Variation	0.392
Mann-Kendall Test	
M-K Test Value (S)	-21
Tabulated p-value	0.22
Standard Deviation of S	24.06
Standardized Value of S	-0.831
Approximate p-value	0.203
Insufficient evidence to identify a significant trend at the specified level of significance.	

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2021 9:38:52 PM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05

Arsenic-m-56a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	6.0000E-4
Maximum	0.01
Mean	0.00273
Geometric Mean	0.0016

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Median	0.001
Standard Deviation	0.00319
Coefficient of Variation	1.171
Mann-Kendall Test	
M-K Test Value (S)	56
Tabulated p-value	0.049
Standard Deviation of S	33.12
Standardized Value of S	1.661
Approximate p-value	0.0484
Statistically significant evidence of an increasing trend at the specified level of significance.	
Arsenic-m-57a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	2
Number or Reported Events Used	21
Number Values Reported (n)	23
Number Values Missing	2
Number Values Used	21
Minimum	0.0017
Maximum	0.021
Mean	0.00477
Geometric Mean	0.00384
Median	0.0038
Standard Deviation	0.00423
Coefficient of Variation	0.887
Mann-Kendall Test	
M-K Test Value (S)	-45
Tabulated p-value	0.098
Standard Deviation of S	33.03
Standardized Value of S	-1.332
Approximate p-value	0.0914
Insufficient evidence to identify a significant trend at the specified level of significance.	

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Arsenic-m-58a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.0025
Maximum	0.01
Mean	0.00443
Geometric Mean	0.00423
Median	0.0042
Standard Deviation	0.00159
Coefficient of Variation	0.359
Mann-Kendall Test	
M-K Test Value (S)	43
Tabulated p-value	0.109
Standard Deviation of S	33.07
Standardized Value of S	1.27
Approximate p-value	0.102
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/16/2021 10:59:54 PM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Barium-m-56a	
General Statistics	
Number of Events Reported (m)	22

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.05
Maximum	0.086
Mean	0.0693
Geometric Mean	0.0686
Median	0.07
Standard Deviation	0.0101
Coefficient of Variation	0.146
Mann-Kendall Test	
M-K Test Value (S)	-127
Tabulated p-value	0
Standard Deviation of S	33.1
Standardized Value of S	-3.807
Approximate p-value	7.0460E-5
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Barium-m-57a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	2
Number or Reported Events Used	21
Number Values Reported (n)	23
Number Values Missing	2
Number Values Used	21
Minimum	0.038
Maximum	0.072
Mean	0.0461
Geometric Mean	0.0456
Median	0.043
Standard Deviation	0.00821
Coefficient of Variation	0.178

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Mann-Kendall Test	
M-K Test Value (S)	-60
Tabulated p-value	0.037
Standard Deviation of S	32.88
Standardized Value of S	-1.794
Approximate p-value	0.0364
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Barium-m-58a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.043
Maximum	0.11
Mean	0.0703
Geometric Mean	0.0683
Median	0.069
Standard Deviation	0.0173
Coefficient of Variation	0.246
Mann-Kendall Test	
M-K Test Value (S)	-6
Tabulated p-value	0.441
Standard Deviation of S	33.09
Standardized Value of S	-0.151
Approximate p-value	0.44
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/17/2021 9:28:35 AM

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chromium-m-56a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	5.0000E-4
Maximum	0.076
Mean	0.0111
Geometric Mean	0.00515
Median	0.0052
Standard Deviation	0.017
Coefficient of Variation	1.528
Mann-Kendall Test	
M-K Test Value (S)	61
Tabulated p-value	0.037
Standard Deviation of S	33.1
Standardized Value of S	1.813
Approximate p-value	0.0349
Statistically significant evidence of an increasing	
trend at the specified level of significance.	
Chromium-m-57a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	5.0000E-4

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Maximum	0.16
Mean	0.0234
Geometric Mean	0.0105
Median	0.014
Standard Deviation	0.0336
Coefficient of Variation	1.435
Mann-Kendall Test	
M-K Test Value (S)	37
Tabulated p-value	0.157
Standard Deviation of S	35.46
Standardized Value of S	1.015
Approximate p-value	0.155
Insufficient evidence to identify a significant trend at the specified level of significance.	
Chromium-m-58a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	5.0000E-4
Maximum	0.01
Mean	0.00198
Geometric Mean	0.00134
Median	0.001
Standard Deviation	0.00222
Coefficient of Variation	1.125
Mann-Kendall Test	
M-K Test Value (S)	43
Tabulated p-value	0.109
Standard Deviation of S	32.61
Standardized Value of S	1.288
Approximate p-value	0.0989

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/17/2021 10:34:56 AM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Cobalt-m-56a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	5.0000E-4
Maximum	0.0025
Mean	0.00105
Geometric Mean	9.3680E-4
Median	0.001
Standard Deviation	5.5541E-4
Coefficient of Variation	0.527
Mann-Kendall Test	
M-K Test Value (S)	-26
Tabulated p-value	0.228
Standard Deviation of S	32.84
Standardized Value of S	-0.761
Approximate p-value	0.223
Insufficient evidence to identify a significant trend at the specified level of significance.	
Cobalt-m-57a	

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	2
Number or Reported Events Used	21
Number Values Reported (n)	23
Number Values Missing	2
Number Values Used	21
Minimum	0.0028
Maximum	0.0088
Mean	0.00656
Geometric Mean	0.00622
Median	0.0075
Standard Deviation	0.00193
Coefficient of Variation	0.294
Mann-Kendall Test	
M-K Test Value (S)	-111
Tabulated p-value	0
Standard Deviation of S	33.07
Standardized Value of S	-3.326
Approximate p-value	4.4017E-4
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Cobalt-m-58a	
General Statistics	
Number of Events Reported (m)	22
Number of Missing Events	1
Number or Reported Events Used	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	5.0000E-4
Maximum	0.01
Mean	0.00126
Geometric Mean	8.0998E-4
Median	5.1000E-4
Standard Deviation	0.00207

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Coefficient of Variation	1.645
Mann-Kendall Test	
M-K Test Value (S)	-28
Tabulated p-value	0.21
Standard Deviation of S	31.11
Standardized Value of S	-0.868
Approximate p-value	0.193
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.13/17/2021 10:23:07 AM
From File	Cholla_SEDIAppendixIV_ProUCL_Q12021_20210316v2_a.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Molybdenum-m-56a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21
Minimum	0.0057
Maximum	0.029
Mean	0.0123
Geometric Mean	0.0114
Median	0.011
Standard Deviation	0.00571
Coefficient of Variation	0.463
Mann-Kendall Test	
M-K Test Value (S)	-102
Tabulated p-value	0.001

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Standard Deviation of S	33.05
Standardized Value of S	-3.056
Approximate p-value	0.00112
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Molybdenum-m-57a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	23
Number Values Missing	2
Number Values Used	21
Minimum	0.0011
Maximum	0.022
Mean	0.00628
Geometric Mean	0.00493
Median	0.0046
Standard Deviation	0.00519
Coefficient of Variation	0.828
Mann-Kendall Test	
M-K Test Value (S)	11
Tabulated p-value	0.394
Standard Deviation of S	33.1
Standardized Value of S	0.302
Approximate p-value	0.381
Insufficient evidence to identify a significant trend at the specified level of significance.	
Molybdenum-m-58a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	21
Number Values Reported (n)	22
Number Values Missing	1
Number Values Used	21

Appendix B
Time Series Statistics

Number of Events Reported (m)	22
Minimum	0.0014
Maximum	0.02
Mean	0.00326
Geometric Mean	0.00235
Median	0.0018
Standard Deviation	0.00427
Coefficient of Variation	1.31
Mann-Kendall Test	
M-K Test Value (S)	-44
Tabulated p-value	0.098
Standard Deviation of S	32.35
Standardized Value of S	-1.329
Approximate p-value	0.0919

Insufficient evidence to identify a significant trend at the specified level of significance.

Appendix K

Wood Technical Memorandum Documenting the Statistical Analysis of Appendix IV Constituent Data Collected for the SEDI Through April 2021

Technical Memorandum

To:	Arizona Public Service Company	**File No:**	14-2021-2008
From:	Mari Wuollet	**Reviewed by:**	Maren Henley, PE
Date:	October 13, 2021		

Subject: **CCR GROUNDWATER ASSESSMENT MONITORING**
STATISTICAL EVALUATION OF APPENDIX IV CONSTITUENT DATA
COLLECTED FROM THE SEDIMENTATION POND THROUGH APRIL 2021
Arizona Public Service Company Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) presents the results of a statistical evaluation of groundwater monitoring data collected from monitoring wells downgradient of the Sedimentation Pond (SEDI) located at the Arizona Public Service Company (APS) Cholla Power Plant (Site) in Navajo County, Arizona. The statistical evaluation was performed by Geoscience Consulting Strategies LLC (Geoscience Consulting), a subcontractor to Wood Environment and Infrastructure Solutions, Inc. (Wood) pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections 257.90 through 257.98 (CCR Rule) (Federal Register, 2020).

The SEDI is a Site CCR unit that is currently in the assessment monitoring program. The CCR Rule requires ongoing evaluation on a semiannual basis of Appendix IV constituent data collected from SEDI downgradient wells to determine if an Appendix IV constituent exceeds its respective groundwater protection standard (GWPS) at a statistically significant level (SSL). The statistical evaluation documented herein incorporates Appendix IV constituent data collected from SEDI downgradient wells M-56A, M-57A, and M-58A through April 2021 to determine if a GWPS has been exceeded.

2.0 STATISTICAL EVALUATION RESULTS

Attachment A presents the statistical evaluation conducted by Geoscience Consulting. The results of the evaluation are summarized as follows:

- There are currently no GWPS exceedances for Appendix IV constituents at the SEDI downgradient wells.

- A statistically significant decreasing temporal trend is evident for barium and molybdenum at M-56A; and for arsenic, barium, and cobalt at M-57A. A statistically significant increasing temporal trend is evident for arsenic and chromium at M-56A; and for arsenic at M-58A.

600 East Washington Street, Suite 600
Phoenix, Arizona 85034-1917
Tel: (602) 733-6000
Fax: (602) 733-6100
www.woodplc.com

3.0 RECOMMENDATIONS

Based on the results of the statistical evaluation presented in Attachment A and pursuant to the CCR Rule, there are currently no GWPS exceedances or exceedances of respective background threshold values in Appendix IV constituent concentrations based on evaluation of the groundwater monitoring data collected in April 2021.

Continuation of assessment monitoring at a semiannual frequency for Appendix IV constituents at the SEDI is warranted until CCR has been removed from the unit (in accordance with the Closure Plan) and Appendix IV concentrations are below GWPSs for two consecutive sampling events. Wood recommends trend testing after each monitoring event and updates to the statistical method selection and BTVs after 1-2 years of future sampling events (as warranted).

4.0 REFERENCES

Federal Register, 2020. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments.*

ATTACHMENT A

Technical Memorandum

To: Maren Henley, PE
Mari Wuollet
Wood Environment & Infrastructure Solutions, Inc.

From: Carla Landrum, PhD
Geoscience Consulting Strategies LLC

Date: September 30, 2021

Subject: **CCR Groundwater Assessment Monitoring**
Statistical Evaluation of April 2021 Sedimentation Pond Data
Arizona Public Service Company Cholla Power Plant– Navajo County, Arizona

1.0 INTRODUCTION

This Technical Memorandum (Tech Memo) documents the routine statistical evaluation of assessment monitoring groundwater data collected in April 2021 from the Sedimentation Pond (SEDI) located at the Arizona Public Service Company (APS) Cholla Power Plant (Cholla) in Navajo County, Arizona. This routine statistical evaluation is completed by Geoscience Consulting Strategies LLC in accordance with the Statistical Data Analysis Work Plan (SDAWP) for the Cholla Power Plant and the Coal Combustion Residuals (CCR) Rule (Federal Register, 2018; Wood, 2018).

2.0 STATISTICAL EVALUATION APPROACH

The subject analysis was completed using ProUCL software (United States Environmental Protection Agency [US EPA], 2015). Appendix A contains the ProUCL data upload table Wood Environment & Infrastructure Solutions, Inc. (Wood) put forth to complete the subject analysis, which includes SEDI compliance well data collected from November 2015 through April 2021. The Appendix IV analytes are listed by name as column headers in the ProUCL data upload table. Each analyte has a corresponding data column (indicated with a "D_" prefix) that indicates if the analyte was detected or not at a concentration that exceeds the analytical reporting limit, where detectable concentrations are symbolized by a "1" and non-detectable concentrations are symbolized by a "0". The non-detectable concentration corresponds to the analyte's reporting limit value for the corresponding sample date. Field and split sample duplicates were retracted from the analysis.

Table 1 presents the concentrations of Appendix IV constituents in samples collected from SEDI background (i.e., M-62A) and compliance monitoring wells (i.e., M-56A, M-57A and M-58A) in April 2021. Additionally, Table 1 reflects BTVs that reflect groundwater samples collected between November 2015 and October 2020. The April 2021 sampling event constitutes the sixth sampling round under the SEDI Groundwater Assessment Monitoring program (Wood, 2019).

Appendix B presents the raw outputs from the Exploratory Data Analysis (EDA) of SEDI Appendix IV groundwater data incorporating the April 2021 sampling event, including temporal trend analysis for constituents exhibiting a non-detect frequency less than 50%, goodness of fit tests and summary statistics.

3.0 EXCEEDANCE ASSESSMENT

Table 2 summarizes the Groundwater Protection Standards (GWPS) for each Appendix IV constituent (Wood, 2019). GWPS selection is documented in the January 2019 Tech Memo and constitutes either the statistically calculated Background Threshold Value (BTV) (Table 1), the US EPA's promulgated Maximum Contaminant Level (MCL) for Drinking Water, or the risk-based alternative GWPS identified for constituents without MCLs, whichever value is highest. The updated BTV for antimony and lithium are higher than the respective US EPA promulgated, or risk-based alternative value, and constitute the GWPS shown in Table 2.

Table 2 summarizes: 1) compliance well comparisons to their respective GWPS for Appendix IV constituents, 2) which compliance wells exhibit statistically significant temporal trends, and 3) the type of LCL test applied after incorporating the April 2021 sampling event for each monitoring well. The addition of data to the sample population over time can cause the type of statistical test in Table 2 to change from previous evaluations.

This statistical analysis indicates there is insufficient evidence to declare a GWPS exceedance for SEDI monitoring wells M-56A, M-57A, and M-58A at the current time.

Several compliance monitoring wells exhibit statistically significant ($p<0.05$) temporal trends, including statistically significant ($p<0.05$) decreasing temporal trends in M-56A (barium and molybdenum) and M-57A (arsenic, barium and cobalt) in addition to statistically significant ($p<0.05$) increasing temporal trends in M-56A (arsenic and chromium) and M-58A (arsenic). Temporal trends can be present without an SSI exceedance because the current concentration trends fall below their respective GWPS.

4.0 RECOMMENDATION

The SEDI should continue Assessment Monitoring in accordance with 40 Code of Federal Regulations Section 257.95(f) (Federal Register, 2018).

Future laboratory reporting limits should be equal to, or below, the respective BTVs to make sample concentration comparisons (Table 1) meaningful (Wood, 2018).

5.0 REFERENCES

Federal Register, 2018. *40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals from Electric Utilities; Final Rule promulgated April 17, 2015 with Amendments to the National Minimum Criteria (Phase One, Part One) effective August 29, 2018*.

US Environmental Protection Agency (US EPA), 2015. ProUCL (Version 5.1.1) *User Guide, Statistical Software for Environmental Applications for Data Sets with and without Nondetect Observations*. EPA/600/R-07/041. Washington D.C. October 2015.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2018. *Statistical Data Analysis Work Plan*. Coal Combustion Residual Rule Groundwater Monitoring System Compliance, Cholla Power Plant, Navajo County, Arizona. Prepared for Arizona Public Service. October 2018.

Wood, 2019. *CCR Groundwater Assessment Monitoring Statistical Analysis and Results for the Sedimentation Pond*. Arizona Public Service Cholla Power Plant, Navajo County, Arizona. Technical Memorandum dated January 14, 2019.

Wood, 2020. *CCR Groundwater Assessment Monitoring Statistical Evaluation of February and November 2019 Data Collected from the Sedimentation Pond*. Arizona Public Service Cholla Power Plant, Navajo County, Arizona. Technical Memorandum dated August 13, 2020.

ATTACHMENTS

Table 1 – Assessment Monitoring Data Collected from the Sedimentation Pond
Table 2 – GWPS Exceedance Summary for Data Collected from the Sedimentation Pond through April 2021
Appendix A – ProUCL Data Upload Table
Appendix B – ProUCL EDA Output Files

TABLES

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date						
				M-56A (Compliance)						
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/18/19**	**8/9/19**	**11/25/19**	**4/16/20**	**10/21/20**	**4/14/21**
Appendix III	Boron	mg/L	0.23	0.30	---	---	---	---	---	---
Appendix III	Calcium	mg/L	600	300	---	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2000	---	---	---	---	---	---
Appendix III	pH	SU	7.5	7.3	---	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	850	---	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002	<0.002
Appendix IV	Arsenic	mg/L	0.008	**0.0082**	0.0011	**0.0085**	**0.0088**	<0.0025	0.0044	0.0029
Appendix IV	Barium	mg/L	0.16	0.067	0.055	0.078	0.063	0.052	0.05	0.05
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002	<0.0002
Appendix IV	Chromium	mg/L	0.018	0.0052	**0.0760**	**0.0230**	0.0086	**0.0340**	0.0041	0.0140
Appendix IV	Cobalt	mg/L	0.003	0.00073	0.0013	0.0012	0.00064	<0.0025	<0.001	0.00073
Appendix IV	Fluoride	mg/L	0.8	<0.4000	<0.4000	<0.8000	<0.4000	<0.8000	<0.8000	0.39
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.20	---	**<1***	0.097	0.10
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0074	0.014	0.011	0.0087	0.012	0.008	0.0097
Appendix IV	Total Radium	pCi/L	2.5	0.9000	NA	0.6000	---	NA	<0.8000	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	0.0006	NA	---	<0.0025	<0.0010	0.0016
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	0.0002	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date						
				M-57A (Compliance)						
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/17/19**	**8/9/20**	**11/25/19**	**4/16/20**	**10/21/20**	**4/14/21**
Appendix III	Boron	mg/L	0.23	0.63	---	---	---	---	---	---
Appendix III	Calcium	mg/L	600	490	---	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2100	---	---	---	---	---	---
Appendix III	pH	SU	7.5	7.1	---	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	1300	---	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	NA	NA	NA	<0.005	<0.002	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.0017	0.0026	0.0019	**0.021**	0.0037	0.0061	0.0037
Appendix IV	Barium	mg/L	0.16	0.041	0.041	0.039	0.047	0.042	0.046	0.043
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.001	<0.001
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002	<0.0002
Appendix IV	Chromium	mg/L	0.018	0.0074	**0.0450**	**0.0380**	0.0038	<0.005	**0.1600**	0.0170
Appendix IV	Cobalt	mg/L	0.003	**0.0049**	**0.005**	**0.004**	**0.0044**	0.0028	0.0028	0.0026
Appendix IV	Fluoride	mg/L	0.8	<0.4000	0.53	<0.8000	<0.4000	<0.8000	<0.8000	0.35
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.092	0.096
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0029	0.0078	0.0068	0.012	<0.0025	**0.018**	0.0044
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	<0.7000	---	NA	<0.8000	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	0.0007	NA	---	<0.0025	<0.0010	0.0014
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0002	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date						
				M-58A (Compliance)						
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/18/19**	**8/9/19**	**11/25/19**	**4/16/20**	**10/21/20**	**4/14/21**
Appendix III	Boron	mg/L	0.23	0.23	---	---	---	---	---	---
Appendix III	Calcium	mg/L	600	310	---	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2100	---	---	---	---	---	---
Appendix III	pH	SU	7.5	7.5	---	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	540	---	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.0043	0.0039	0.0038	0.0046	0.0042	0.0066	0.0061
Appendix IV	Barium	mg/L	0.16	0.063	0.059	0.066	0.079	0.069	0.073	0.07
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002	<0.0002
Appendix IV	Chromium	mg/L	0.018	<0.0010	<0.0010	<0.001	<0.001	<0.005	<0.002	<0.002
Appendix IV	Cobalt	mg/L	0.003	<0.00050	<0.00050	<0.0005	**<0.005***	<0.0025	<0.001	<0.001
Appendix IV	Fluoride	mg/L	0.8	<0.4000	<0.4000	<0.8000	<0.4000	<0.8000	<0.8000	0.32
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010	<0.0010
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.07	0.071
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0018	0.0018	0.0018	0.0018	<0.0025	0.0017	0.002
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	<0.7000	---	NA	0.5000	<0.8
Appendix IV	Selenium	mg/L	0.01	---	<0.00050	NA	---	<0.0025	<0.0010	0.0010
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0005	<0.0002	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 1
Assessment Monitoring Data Collected from the Sedimentation Pond

				Analyte Concentration by Location and Date						
				M-62A (Background)						
Constituent	**Analyte**	**Units**	**BTV**	**2/15/19**	**4/18/19**	**8/9/19**	**11/25/19**	**4/16/20**	**10/21/20**	**4/14/21**
Appendix III	Boron	mg/L	0.23	0.23	---	---	---	---	---	---
Appendix III	Calcium	mg/L	600	490	---	---	---	---	---	---
Appendix III	Chloride	mg/L	3700	2900	---	---	---	---	---	---
Appendix III	pH	SU	7.5	7.3	---	---	---	---	---	---
Appendix III	Sulfate	mg/L	630	560	---	---	---	---	---	---
Appendix III	TDS	mg/L	7800	---	---	---	---	---	---	---
Appendix IV	Antimony	mg/L	0.05	NA	<0.0010	NA	NA	<0.005	<0.002	<0.002
Appendix IV	Arsenic	mg/L	0.008	0.003	0.0033	0.0031	0.0048	0.0043	0.0048	0.0052
Appendix IV	Barium	mg/L	0.16	0.068	0.068	0.067	0.15	0.078	0.12	0.063
Appendix IV	Beryllium	mg/L	0.001	---	<0.0010	NA	---	<0.0010	<0.0010	<0.0010
Appendix IV	Cadmium	mg/L	0.002	---	<0.0001	NA	---	<0.0005	<0.0002	<0.0002
Appendix IV	Chromium	mg/L	0.018	<0.0010	<0.0010	0.0037	0.0044	0.0053	0.0059	0.0012
Appendix IV	Cobalt	mg/L	0.003	<0.00050	<0.00050	<0.0005	0.0012	<0.0025	0.0011	<0.001
Appendix IV	Fluoride	mg/L	0.8	<0.4000	0.47	<0.4000	<0.4000	<0.8000	<0.8000	0.29
Appendix IV	Lead	mg/L	0.01	---	<0.00050	NA	---	<0.0025	0.002	<0.001
Appendix IV	Lithium	mg/L	0.2	---	<0.20	<0.2	---	**<1***	0.09	0.092
Appendix IV	Mercury	mg/L	0.0002	---	<0.00020	NA	---	<0.0002	<0.0002	<0.0002
Appendix IV	Molybdenum	mg/L	0.015	0.0024	0.0026	0.0028	0.0091	0.004	0.015	0.0041
Appendix IV	Total Radium	pCi/L	2.5	<0.7000	NA	0.8000	---	NA	<0.8000	<0.8000
Appendix IV	Selenium	mg/L	0.01	---	<0.0005	NA	---	<0.0025	<0.0010	0.0016
Appendix IV	Thallium	mg/L	0.0005	<0.0001	<0.0001	<0.0001	0.0002	<0.0005	<0.0002	<0.0002

Notes:
Constituent concentrations that exceed BTVs are presented in bold text.

*The non-detectable sample concentration exceeds the corresponding BTV.

Acronyms:
--- = not applicable or evaluated
BTV = Background Threshold Value
mg/L = milligrams per liter
NA = not available at the time of assessment
SU = standard units
NS = no standard
pCi/L = picocuries per liter
< = sample concentration below the reporting limit value
SEDI = Sedimentation Pond
TDS = total dissolved solids

Table 2
GWPS Exceedance Summary for Data Collected from the Sedimentation Pond through October 2020

			Lower Confidence Limit (LCL) Results - Appendix IV Constituents						
			M-56A		M-57A		M-58A		Exceedance
Analyte	Units	GWPS	LCL	Recent Test	LCL	Recent Test	LCL	Recent Test	
Antimony	mg/L	0.05	0.0010	NP-LCL	0.0010	NP-LCL	0.0010	NP-LCL	No
Arsenic	mg/L	0.01	0.0008	NP-LCL	0.0020	P-LCLT	0.0033	P-LCLT	No
Barium	mg/L	2	0.0441	P-LCLT	0.0420	NP-LCL	0.0622	P-LCL	No
Beryllium	mg/L	0.004	0.0010	NP-LCL	0.0010	NP-LCL	0.0010	NP-LCL	No
Cadmium	mg/L	0.005	0.0001	NP-LCL	0.0001	NP-LCL	0.0001	NP-LCL	No
Chromium	mg/L	0.1	0.0081	P-LCLT	0.0046	P-LCL	0.0009	NP-LCL	No
Cobalt	mg/L	0.006	0.0006	P-LCL	0.0049	NP-LCL	0.0005	NP-LCL	No
Fluoride	mg/L	4	0.4000	NP-LCL	0.4000	NP-LCL	0.4000	NP-LCL	No
Lead	mg/L	0.015	0.0005	NP-LCL	0.0005	NP-LCL	0.0005	NP-LCL	No
Lithium	mg/L	0.2	0.2000	NP-LCL	0.2000	NP-LCL	0.2000	NP-LCL	No
Mercury	mg/L	0.002	0.0002	NP-LCL	0.0002	NP-LCL	0.0002	NP-LCL	No
Molybdenum	mg/L	0.1	0.0053	P-LCLT	0.0034	P-LCL	0.0017	NP-LCL	No
Total Radium	pCi/L	5	0.6239	P-LCL	0.6000	NP-LCL	0.7000	NP-LCL	No
Selenium	mg/L	0.05	0.0005	NP-LCL	0.0005	NP-LCL	0.0005	NP-LCL	No
Thallium	mg/L	0.002	0.0001	NP-LCL	0.0001	NP-LCL	0.0001	NP-LCL	No

Notes:
Statistically significant temporal trend ($p<0.05$)

Acronymns:
GWPS = Groundwater Protection Standard
mg/L = milligrams per liter
pCi/L = picocuries per liter
P-LCL = Parametric Lower Confidence Limit
NP-LCL = Non-Parametric Lower Confidence Limit
P-LCLT = Parametric Lower Confidence Limit with a Trend

APPENDIX A

PROUCL DATA UPLOAD TABLE

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Antimony	D_Antimony	Arsenic	D_Arsenic	Barium	D_Barium	Beryllium	D_Beryllium	Cadmium	D_Cadmium	Chromium	D_Chromium	Cobalt	D_Cobalt	Fluoride	D_Fluoride
M-56A	7873_O	11/30/2015	42338.51	0.0025	0	0.0019	1	0.081	1	0.001	0	0.0001	0	0.00051	1	0.0012	1	0.4	0
M-56A	CH-M-56A-0316_O	3/8/2016	42437.57	0.05	0	0.01	0	0.084	1	0.001	0	0.002	0	0.01	0	0.002	1	0.43	1
M-56A	CH-CCR-M56A-05102016_O	5/10/2016	42500.59	0.0001	0	0.00093	1	0.075	1	0.001	0	0.0001	0	0.0005	0	0.0013	1	0.42	1
M-56A	CH-CCR-M56A-816_O	8/29/2016	42611.38	0.00013	1	0.00082	1	0.082	1	0.001	0	0.0001	0	0.0005	0	0.0013	1	0.46	1
M-56A	CH-CCR-M56A-916_O	9/21/2016	42634.45	0.0005	0	0.00083	1	0.076	1	0.001	0	0.0001	0	0.0012	1	0.0012	1	0.4	1
M-56A	CH-CCR-M56A-217_O	2/20/2017	42786.47	0.001	0	0.00068	1	0.071	1	0.001	0	0.0001	0	0.0093	1	0.00077	1	0.4	1
M-56A	CH-CCR-M56A-41317_O	4/13/2017	42838.32	0.001	0	0.00076	1	0.07	1	0.001	0	0.0001	0	0.0091	1	0.00065	1	0.4	0
M-56A	CH-CCR-M56A-42517_O	4/25/2017	42850.38	0.001	0	0.00075	1	0.086	1	0.001	0	0.0001	0	0.0067	1	0.00061	1	0.8	0
M-56A	CH-CCR-M56A-51817_O	5/18/2017	42873.39	0.001	0	0.0006	1	0.062	1	0.001	0	0.0001	0	0.0063	1	0.0005	0	0.4	0
M-56A	CH-CCR-M56A-52517_O	5/25/2017	42880.43	0.001	0	0.0007	1	0.073	1	0.001	0	0.0001	0	0.02	1	0.00075	1	0.4	0
M-56A	CH-CCR-M56A-70117_O	7/1/2017	42917.61	0.001	0	0.00065	1	0.068	1	0.001	0	0.0001	0	0.0034	1	0.0005	0	0.41	1
M-56A	CH-CCR-M56A-72617_O	7/26/2017	42942.61	0.002	0	0.001	0	0.066	1	0.001	0	0.0002	0	0.0028	1	0.001	0	0.4	0
M-56A	CH-CCR-M56A-90817_O	9/8/2017	42986.36	0.004	0	0.002	0	0.07	1	0.001	0	0.0004	0	0.004	0	0.002	0	0.47	1
M-56A	CH-CCR-M56A-120817_O	12/8/2017	43077.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.49	1
M-56A	CH-CCR-M-56A-52118_O	5/21/2018	43241.50	0.001	0	0.00081	1	0.061	1	0.001	0	0.0001	0	0.0046	1	0.0005	0	0.4	0
M-56A	CH-CCR-M56A-082818_O	8/28/2018	43340.59	NA	NA	0.0013	1	0.065	1	NA	NA	NA	NA	0.0042	1	0.0005	0	NA	NA
M-56A	CH-CCR-M56A-21519	2/15/2019	43511.93	NA	NA	0.0082	1	0.067	1	NA	NA	NA	NA	0.0052	1	0.00073	1	0.4	0
M-56A	CH-CCR-M56A-41819	4/18/2019	43573.00	0.001	0	0.0011	1	0.055	1	0.001	0	0.0001	0	0.076	1	0.0013	1	0.4	0
M-56A	CH-CCR-M56A-8919	8/9/2019	43686.00	NA	NA	0.0085	1	0.078	1	NA	NA	NA	NA	0.023	1	0.0012	1	0.8	0
M-56A	CH-CCR-M56A-112519	11/25/2019	43794.47	NA	NA	0.0088	1	0.063	1	NA	NA	NA	NA	0.0086	1	0.00064	1	0.4	0
M-56A	CH-CCR-M56-0420	4/16/2020	43937.00	0.005	0	0.0025	0	0.052	1	0.001	0	0.0005	0	0.034	1	0.0025	0	0.8	0
M-56A	CH-CCR-M56-1020	10/21/2020	44125.00	0.002	0	0.0044	1	0.05	1	0.001	0	0.0002	0	0.0041	1	0.001	0	0.8	0
M-56A	CH-CCR-M56-0421	04/14/2021	44300.00	0.002	0	0.0029	1	0.05	1	0.001	0	0.0002	0	0.014	1	0.00073	1	0.39	1
M-57A	7874_O	11/30/2015	42338.55	0.0025	0	0.0048	1	0.072	1	0.001	0	0.0001	0	0.00074	1	0.0077	1	0.4	0
M-57A	CH-M-57A-0316_O	3/8/2016	42437.61	0.05	0	0.0064	1	0.063	1	0.001	0	0.002	0	0.01	0	0.0082	1	0.4	0
M-57A	CH-CCR-M57A-05112016_O	5/11/2016	42501.37	0.0001	0	0.0027	1	0.047	1	0.001	0	0.0001	0	0.0005	0	0.0065	1	0.4	0
M-57A	CH-CCR-M57A-816_O	8/25/2016	42607.56	0.00012	1	0.0042	1	0.055	1	0.001	0	0.0001	0	0.00066	1	0.0078	1	0.4	0
M-57A	CH-CCR-M57A-916_O	9/21/2016	42634.58	0.0005	0	0.0019	1	0.051	1	0.001	0	0.0001	0	0.016	1	0.0067	1	0.4	0
M-57A	CH-CCR-M57A-217_O	2/20/2017	42786.44	0.001	0	0.0051	1	0.041	1	0.001	0	0.0001	0	0.042	1	0.0086	1	0.4	0
M-57A	CH-CCR-M57A-41217_O	4/12/2017	42837.77	0.001	0	0.0042	1	0.042	1	0.001	0	0.0001	0	0.031	1	0.0087	1	0.4	0
M-57A	CH-CCR-M57A-42517_O	4/25/2017	42850.36	0.001	0	0.0039	1	0.042	1	0.001	0	0.0001	0	0.019	1	0.0077	1	0.4	0
M-57A	CH-CCR-M57A-51817_O	5/18/2017	42873.42	0.001	0	0.0098	1	0.038	1	0.001	0	0.0001	0	0.024	1	0.0076	1	0.4	0
M-57A	CH-CCR-M57A-52517_O	5/25/2017	42880.35	0.001	0	0.0066	1	0.044	1	0.001	0	0.0001	0	0.035	1	0.0083	1	0.4	0
M-57A	CH-CCR-M57A-70117_O	7/1/2017	42917.59	0.001	0	0.0038	1	0.043	1	0.001	0	0.0001	0	0.012	1	0.0075	1	0.42	1
M-57A	CH-CCR-M57A-72617_O	7/26/2017	42942.58	0.002	0	0.0027	1	0.042	1	0.001	0	0.0002	0	0.028	1	0.0088	1	0.4	0
M-57A	CH-CCR-M57A-90817_O	9/8/2017	42986.33	0.004	0	0.0027	1	0.045	1	0.001	0	0.0004	0	0.015	1	0.0082	1	0.4	0
M-57A	CH-CCR-M57A-120817_O	12/8/2017	43077.45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4	0
M-57A	CH-CCR-M-57A-52118_O	5/21/2018	43241.52	0.002	0	0.0022	1	0.043	1	0.001	0	0.0002	0	0.0023	1	0.0058	1	0.4	0
M-57A	CH-CCR-M57A-082818_O	8/28/2018	43340.55	NA	NA	0.0021	1	0.045	1	NA	NA	NA	NA	0.0067	1	0.0057	1	NA	NA
M-57A	CH-CCR-M57A-21519	2/15/2019	43511.90	NA	NA	0.0017	1	0.041	1	NA	NA	NA	NA	0.0074	1	0.0049	1	0.4	0
M-57A	CH-CCR-M57A-41719	4/17/2019	43572.64	0.001	0	0.0026	1	0.041	1	0.001	0	0.0001	0	0.045	1	0.005	1	0.53	1
M-57A	CH-CCR-M57A-8919	8/9/2019	43686.00	NA	NA	0.0019	1	0.039	1	NA	NA	NA	NA	0.038	1	0.004	1	0.8	0
M-57A	CH-CCR-M57A-112519	11/25/2019	43794.45	NA	NA	0.021	1	0.047	1	NA	NA	NA	NA	0.0038	1	0.0044	1	0.4	0
M-57A	CH-CCR-M57-0420	4/16/2020	43937.00	0.005	0	0.0037	1	0.042	1	0.001	0	0.0005	0	0.005	0	0.0028	1	0.8	0
M-57A	CH-CCR-M57-1020	10/21/2020	44125.00	0.002	0	0.0061	1	0.046	1	0.001	0	0.0002	0	0.16	1	0.0028	1	0.8	0
M-57A	CH-CCR-M57A-011321	01/13/2021	44209.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.013	1	NA	NA	NA	NA
M-57A	CH-CCR-M57-0421	04/14/2021	44300.00	0.002	0	0.0037	1	0.043	1	0.001	0	0.0002	0	0.017	1	0.0026	1	0.35	1

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Antimony	D_Antimony	Arsenic	D_Arsenic	Barium	D_Barium	Beryllium	D_Beryllium	Cadmium	D_Cadmium	Chromium	D_Chromium	Cobalt	D_Cobalt	Fluoride	D_Fluoride
M-58A	7876_O	11/30/2015	42338.60	0.0025	0	0.0032	1	0.1	1	0.001	0	0.0001	0	0.0005	0	0.0011	1	0.43	1
M-58A	CH-M-58A-0316_O	3/8/2016	42437.62	0.05	0	0.01	0	0.081	1	0.001	0	0.002	0	0.01	0	0.01	0	0.4	0
M-58A	CH-CCR-M58A-05112016_O	5/11/2016	42501.43	0.0001	0	0.0025	1	0.055	1	0.001	0	0.0001	0	0.0005	0	0.00051	1	0.4	0
M-58A	CH-CCR-M58A-816_O	8/25/2016	42607.59	0.0001	0	0.0045	1	0.097	1	0.001	0	0.0001	0	0.00097	1	0.00079	1	0.4	0
M-58A	CH-CCR-M58A-916_O	9/21/2016	42634.55	0.0005	0	0.0039	1	0.076	1	0.001	0	0.0001	0	0.0018	1	0.00057	1	0.4	0
M-58A	CH-CCR-M58A-217_O	2/20/2017	42786.41	0.001	0	0.0027	1	0.064	1	0.001	0	0.0001	0	0.0033	1	0.00097	1	0.4	0
M-58A	CH-CCR-M58A-41217_O	4/12/2017	42837.74	0.001	0	0.0037	1	0.048	1	0.001	0	0.0001	0	0.00091	1	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-42517_O	4/25/2017	42850.34	0.001	0	0.004	1	0.049	1	0.001	0	0.0001	0	0.001	1	0.0005	0	0.8	0
M-58A	CH-CCR-M58A-51817_O	5/18/2017	42873.44	0.001	0	0.003	1	0.043	1	0.001	0	0.0001	0	0.00052	1	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-52517_O	5/25/2017	42880.33	0.001	0	0.0051	1	0.055	1	0.001	0	0.0001	0	0.00055	1	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-70117_O	7/1/2017	42917.57	0.001	0	0.0047	1	0.063	1	0.001	0	0.0001	0	0.0005	0	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-72617_O	7/26/2017	42942.47	0.002	0	0.0057	1	0.11	1	0.001	0	0.0002	0	0.003	1	0.001	1	0.4	0
M-58A	CH-CCR-M58A-90817_O	9/8/2017	42986.31	0.004	0	0.0048	1	0.08	1	0.001	0	0.0004	0	0.004	0	0.002	0	0.4	0
M-58A	CH-CCR-M58A-120817_O	12/8/2017	43077.43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4	0
M-58A	CH-CCR-M-58A-52118_O	5/21/2018	43241.55	0.002	0	0.0042	1	0.071	1	0.001	0	0.0002	0	0.002	0	0.001	0	0.4	0
M-58A	CH-CCR-M58A-082818_O	8/28/2018	43340.40	NA	NA	0.0037	1	0.075	1	NA	NA	NA	NA	0.001	0	0.0005	0	NA	NA
M-58A	CH-CCR-M58A-21519	2/15/2019	43511.88	NA	NA	0.0043	1	0.063	1	NA	NA	NA	NA	0.001	0	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-41719	4/17/2019	43572.00	0.001	0	0.0039	1	0.059	1	0.001	0	0.0001	0	0.001	0	0.0005	0	0.4	0
M-58A	CH-CCR-M58A-8919	8/9/2019	43686.00	NA	NA	0.0038	1	0.066	1	NA	NA	NA	NA	0.001	0	0.0005	0	0.8	0
M-58A	CH-CCR-M58A-112519	11/25/2019	43794.38	NA	NA	0.0046	1	0.079	1	NA	NA	NA	NA	0.001	0	0.0005	0	0.4	0
M-58A	CH-CCR-M58-0420	4/16/2020	43937.00	0.005	0	0.0042	1	0.069	1	0.001	0	0.0005	0	0.005	0	0.0025	0	0.8	0
M-58A	CH-CCR-M58-1020	10/21/2020	44125.00	0.002	0	0.0066	1	0.073	1	0.001	0	0.0002	0	0.002	0	0.001	0	0.8	0
M-58A	CH-CCR-M58-0421	04/14/2021	44300.00	0.002	0	0.0061	1	0.07	1	0.001	0	0.0002	0	0.002	0	0.001	0	0.32	1
M-62A	7872_O	11/30/2015	11/30/2015	0.0025	0	0.002	1	0.082	1	0.001	0	0.0001	0	0.00078	1	0.00054	1	0.4	0
M-62A	CH-M-62A-0316_O	3/8/2016	3/8/2016	0.05	0	0.01	0	0.16	1	0.001	0	0.002	0	0.01	0	0.0022	1	0.8	0
M-62A	CH-CCR-MW62A-50516_O	5/5/2016	5/5/2016	0.0001	0	0.003	1	0.084	1	0.001	0	0.0001	0	0.0014	1	0.0012	1	0.4	0
M-62A	CH-CCR-M62A-816_O	8/29/2016	8/29/2016	0.0001	0	0.0031	1	0.082	1	0.001	0	0.0001	0	0.0005	0	0.0005	0	0.8	0
M-62A	CH-CCR-M62A-916_O	9/21/2016	9/21/2016	0.0005	0	0.0028	1	0.075	1	0.001	0	0.0001	0	0.00099	1	0.00046	1	0.8	0
M-62A	CH-CCR-M62A-217_O	2/20/2017	2/20/2017	0.001	0	0.0029	1	0.064	1	0.001	0	0.0001	0	0.002	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-41317_O	4/13/2017	4/13/2017	0.001	0	0.0021	1	0.074	1	0.001	0	0.0001	0	0.0015	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-42517_O	4/25/2017	4/25/2017	0.001	0	0.0017	1	0.079	1	0.001	0	0.0001	0	0.0017	1	0.0005	0	0.8	0
M-62A	CH-CCR-M62A-51817_O	5/18/2017	5/18/2017	0.001	0	0.0016	1	0.072	1	0.001	0	0.0001	0	0.00063	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-52517_O	5/25/2017	5/25/2017	0.001	0	0.0019	1	0.077	1	0.001	0	0.0001	0	0.00096	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-70117_O	7/1/2017	7/1/2017	0.001	0	0.0026	1	0.076	1	0.001	0	0.0001	0	0.0011	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-72617_O	7/26/2017	7/26/2017	0.002	0	0.0024	1	0.075	1	0.001	0	0.0002	0	0.001	0	0.001	0	0.4	0
M-62A	CH-CCR-M62A-90717_O	9/7/2017	9/7/2017	0.004	0	0.0031	1	0.079	1	0.001	0	0.0004	0	0.004	0	0.002	0	0.4	0
M-62A	CH-CCR-M62A-120817_O	12/8/2017	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.4	0
M-62A	CH-CCR-M-62A-52118_O	5/21/2018	5/21/2018	0.002	0	0.0029	1	0.072	1	0.001	0	0.0002	0	0.002	0	0.001	0	0.4	0
M-62A	CH-CCR-M62A-082818_O	8/28/2018	8/28/2018	NA	NA	0.0029	1	0.074	1	NA	NA	NA	NA	0.001	0	0.0005	0	NA	NA
M-62A	CH-CCR-M62A-21519	2/15/2019	2/15/2019	NA	NA	0.003	1	0.068	1	NA	NA	NA	NA	0.001	0	0.0005	0	0.4	0
M-62A	CH-CCR-M62A-112519	11/25/2019	11/25/2019	NA	NA	0.0048	1	0.15	1	NA	NA	NA	NA	0.0044	1	0.0012	1	0.4	0
M-62A	CH-CCR-M62A-41819	4/18/2019	4/18/2019	0.001	0	0.0033	1	0.068	1	0.001	0	0.0001	0	0.001	0	0.0005	0	0.47	1
M-62A	CH-CCR-M62A-8919	8/9/2019	8/9/2019	NA	NA	0.0031	1	0.067	1	NA	NA	NA	NA	0.0037	1	0.0005	0	0.4	0
M-62A	CH-CCR-M62-0420	4/16/2020	4/16/2020	0.005	0	0.0043	1	0.078	1	0.001	0	0.0005	0	0.0053	1	0.0025	0	0.8	0
M-62A	CH-CCR-M62-1020	10/20/2020	10/20/2020	0.002	0	0.0048	1	0.12	1	0.001	0	0.0002	0	0.0059	1	0.0011	1	0.8	0
M-62A	CH-CCR-M62-0421	04/14/2021	4/14/2021	0.002	0	0.0052	1	0.063	1	0.001	0	0.0002	0	0.0012	1	0.001	0	0.29	1

Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Lead	D_Lead	Lithium	D_Lithium	Mercury	D_Mercury	Molybdenum	D_Molybdenum	Total Radium	D_Total Radium	Selenium	D_Selenium	Thallium	D_Thallium
M-56A	7873_O	11/30/2015	42338.51	0.0005	0	0.2	0	0.0002	0	0.0096	1	0.9	0	0.00033	1	0.0001	0
M-56A	CH-M-56A-0316_O	3/8/2016	42437.57	0.01	0	0.2	0	0.0002	0	0.029	1	0.4	0	0.01	0	0.002	0
M-56A	CH-CCR-M56A-05102016_O	5/10/2016	42500.59	0.0005	0	0.2	0	0.0002	0	0.023	1	0.6	1	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-816_O	8/29/2016	42611.38	0.0005	0	0.2	0	0.0002	0	0.021	1	1.6	1	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-916_O	9/21/2016	42634.45	0.0001	0	0.2	0	0.0002	0	0.016	1	0.6	1	0.0006	0	0.0001	0
M-56A	CH-CCR-M56A-217_O	2/20/2017	42786.47	0.0005	0	0.2	0	0.0002	0	0.013	1	1.8	1	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-41317_O	4/13/2017	42838.32	0.0005	0	0.2	0	0.0002	0	0.011	1	1.2	1	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-42517_O	4/25/2017	42850.38	0.0005	0	0.2	0	0.0002	0	0.013	1	1.9	1	0.00056	1	0.0001	0
M-56A	CH-CCR-M56A-51817_O	5/18/2017	42873.39	0.0005	0	0.2	0	0.0002	0	0.0095	1	1.2	0	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-52517_O	5/25/2017	42880.43	0.0005	0	0.2	0	0.0002	0	0.011	1	1.5	1	0.00057	1	0.0001	0
M-56A	CH-CCR-M56A-70117_O	7/1/2017	42917.61	0.0005	0	0.2	0	0.0002	0	0.0098	1	0.7	0	0.0005	0	0.0001	0
M-56A	CH-CCR-M56A-72617_O	7/26/2017	42942.61	0.001	0	0.2	0	0.0002	0	0.009	1	1.7	1	0.001	0	0.0002	0
M-56A	CH-CCR-M56A-90817_O	9/8/2017	42986.36	0.002	0	0.2	0	0.0002	0	0.0093	1	0.5	1	0.002	0	0.0004	0
M-56A	CH-CCR-M56A-120817_O	12/8/2017	43077.47	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-56A	CH-CCR-M-56A-52118_O	5/21/2018	43241.50	0.0005	0	0.2	0	0.0002	0	0.0079	1	1.4	1	0.0005	0	0.00012	1
M-56A	CH-CCR-M56A-082818_O	8/28/2018	43340.59	NA	NA	NA	NA	NA	NA	0.0057	1	0.5	1	NA	NA	0.0001	0
M-56A	CH-CCR-M56A-21519	2/15/2019	43511.93	NA	NA	NA	NA	NA	NA	0.0074	1	NA	NA	NA	NA	0.0001	0
M-56A	CH-CCR-M56A-41819	4/18/2019	43573.00	0.0005	0	0.2	0	0.0002	0	0.014	1	0.7	0	0.00062	1	0.0001	0
M-56A	CH-CCR-M56A-8919	8/9/2019	43686.00	NA	NA	0.2	0	NA	NA	0.011	1	0.6	1	NA	NA	0.0001	0
M-56A	CH-CCR-M56A-112519	11/25/2019	43794.47	NA	NA	NA	NA	NA	NA	0.0087	1	NA	NA	NA	NA	0.0001	0
M-56A	CH-CCR-M56-0420	4/16/2020	43937.00	0.0025	0	1	0	0.0002	0	0.012	1	NA	NA	0.0025	0	0.0005	0
M-56A	CH-CCR-M56-1020	10/21/2020	44125.00	0.001	0	0.097	1	0.0002	0	0.008	1	0.8	0	0.001	0	0.0002	0
M-56A	CH-CCR-M56-0421	04/14/2021	44300.00	0.001	0	0.1	1	0.0002	0	0.0097	1	0.8	0	0.0016	1	0.0002	0
M-57A	7874_O	11/30/2015	42338.55	0.00086	1	0.2	0	0.0002	0	0.008	1	0.9	0	0.00029	1	0.0001	0
M-57A	CH-M-57A-0316_O	3/8/2016	42437.61	0.01	0	0.2	0	0.0002	0	0.004	1	0.4	0	0.01	0	0.002	0
M-57A	CH-CCR-M57A-05112016_O	5/11/2016	42501.37	0.0005	0	0.2	0	0.0002	0	0.0011	1	0.6	0	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-816_O	8/25/2016	42607.56	0.0005	0	0.2	0	0.0002	0	0.022	1	0.6	0	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-916_O	9/21/2016	42634.58	0.00021	1	0.2	0	0.0002	0	0.0029	1	0.7	0	0.0006	0	0.0001	0
M-57A	CH-CCR-M57A-217_O	2/20/2017	42786.44	0.0005	0	0.2	0	0.0002	0	0.0048	1	1.1	1	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-41217_O	4/12/2017	42837.77	0.0005	0	0.2	0	0.0002	0	0.0047	1	0.6	0	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-42517_O	4/25/2017	42850.36	0.0005	0	0.2	0	0.0002	0	0.0042	1	0.6	0	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-51817_O	5/18/2017	42873.42	0.0005	0	0.2	0	0.0002	0	0.0041	1	1.5	1	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-52517_O	5/25/2017	42880.35	0.0005	0	0.2	0	0.0002	0	0.0063	1	0.5	1	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-70117_O	7/1/2017	42917.59	0.0005	0	0.2	0	0.0002	0	0.0037	1	0.7	0	0.0005	0	0.0001	0
M-57A	CH-CCR-M57A-72617_O	7/26/2017	42942.58	0.001	0	0.2	0	0.0002	0	0.0058	1	0.7	0	0.001	0	0.0002	0
M-57A	CH-CCR-M57A-90817_O	9/8/2017	42986.33	0.002	0	0.2	0	0.0002	0	0.0046	1	0.6	1	0.002	0	0.0004	0
M-57A	CH-CCR-M57A-120817_O	12/8/2017	43077.45	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-57A	CH-CCR-M-57A-52118_O	5/21/2018	43241.52	0.001	0	0.2	0	0.0002	0	0.0026	1	0.7	0	0.001	0	0.0002	0
M-57A	CH-CCR-M57A-082818_O	8/28/2018	43340.55	NA	NA	NA	NA	NA	NA	0.003	1	0.7	1	NA	NA	0.0001	0
M-57A	CH-CCR-M57A-21519	2/15/2019	43511.90	NA	NA	NA	NA	NA	NA	0.0029	1	NA	NA	NA	NA	0.0001	0
M-57A	CH-CCR-M57A-41719	4/17/2019	43572.64	0.0005	0	0.2	0	0.0002	0	0.0078	1	0.7	0	0.00069	1	0.0001	0
M-57A	CH-CCR-M57A-8919	8/9/2019	43686.00	NA	NA	0.2	0	NA	NA	0.0068	1	0.7	0	NA	NA	0.0001	0
M-57A	CH-CCR-M57A-112519	11/25/2019	43794.45	NA	NA	NA	NA	NA	NA	0.012	1	NA	NA	NA	NA	0.0001	0
M-57A	CH-CCR-M57-0420	4/16/2020	43937.00	0.0025	0	1	0	0.0002	0	0.0025	0	NA	NA	0.0025	0	0.0005	0
M-57A	CH-CCR-M57-1020	10/21/2020	44125.00	0.001	0	0.092	1	0.0002	0	0.018	1	0.8	0	0.001	0	0.0002	0
M-57A	CH-CCR-M57A-011321	01/13/2021	44209.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-57A	CH-CCR-M57-0421	04/14/2021	44300.00	0.001	0	0.096	1	0.0002	0	0.0044	1	0.8	0	0.0014	1	0.0002	0

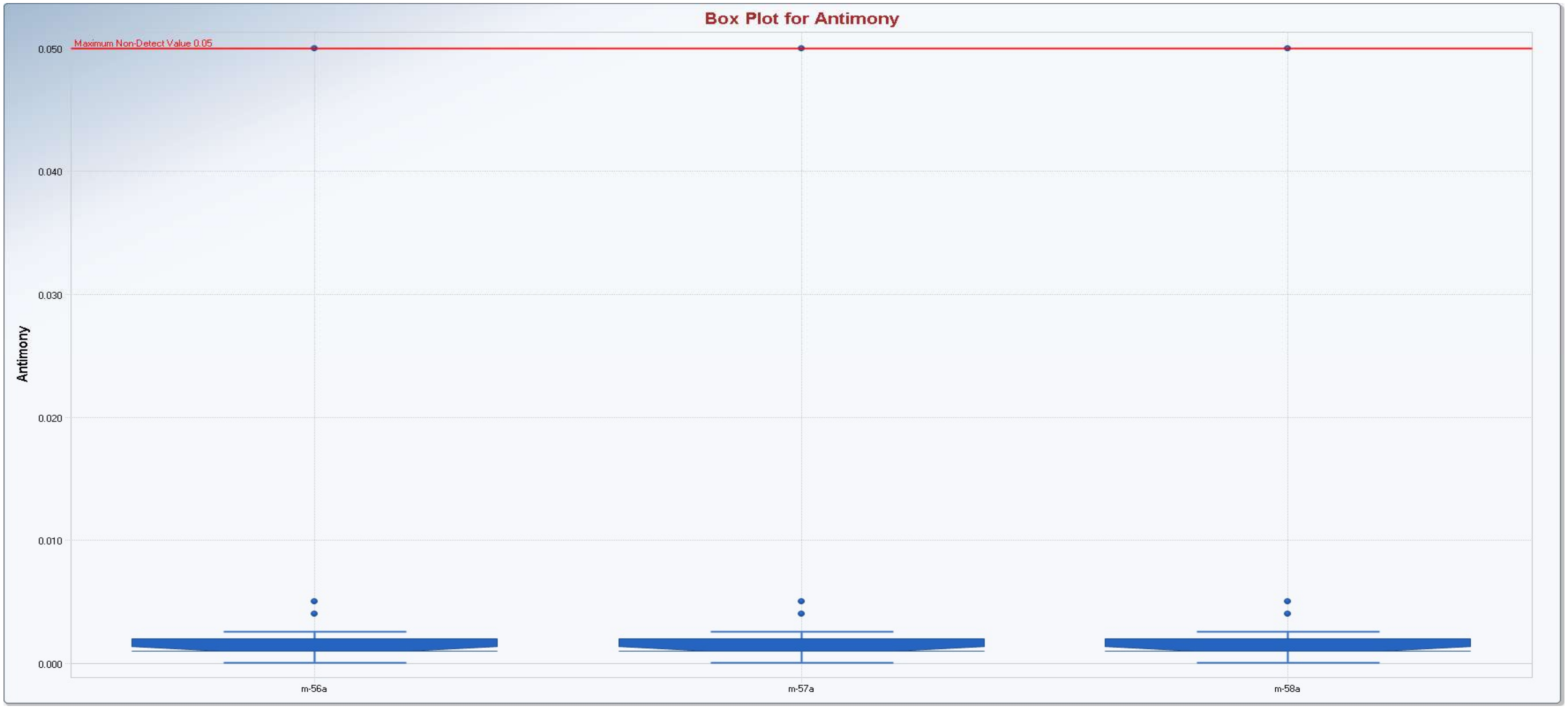
Appendix A - PROUCL DATA UPLOAD TABLE

StationName	QC_SampleID	SampDate	NumDate	Lead	D_Lead	Lithium	D_Lithium	Mercury	D_Mercury	Molybdenum	D_Molybdenum	Total Radium	D_Total Radium	Selenium	D_Selenium	Thallium	D_Thallium
M-58A	7876_O	11/30/2015	42338.60	0.00056	1	0.2	0	0.0002	0	0.0047	1	0.9	0	0.00024	1	0.0001	0
M-58A	CH-M-58A-0316_O	3/8/2016	42437.62	0.01	0	0.2	0	0.0002	0	0.01	0	0.6	0	0.01	0	0.002	0
M-58A	CH-CCR-M58A-05112016_O	5/11/2016	42501.43	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.9	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-816_O	8/25/2016	42607.59	0.00059	1	0.2	0	0.0002	0	0.02	1	2.6	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-916_O	9/21/2016	42634.55	0.0001	0	0.2	0	0.0002	0	0.0025	1	1.2	1	0.0006	0	0.0001	0
M-58A	CH-CCR-M58A-217_O	2/20/2017	42786.41	0.00078	1	0.2	0	0.0002	0	0.0022	1	0.8	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-41217_O	4/12/2017	42837.74	0.0005	0	0.2	0	0.0002	0	0.0017	1	1.9	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-42517_O	4/25/2017	42850.34	0.0005	0	0.2	0	0.0002	0	0.0015	1	0.9	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-51817_O	5/18/2017	42873.44	0.0005	0	0.2	0	0.0002	0	0.0014	1	0.6	0	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-52517_O	5/25/2017	42880.33	0.0005	0	0.2	0	0.0002	0	0.0016	1	2.2	1	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-70117_O	7/1/2017	42917.57	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.7	0	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-72617_O	7/26/2017	42942.47	0.0011	1	0.2	0	0.0002	0	0.0021	1	0.7	0	0.001	0	0.0002	0
M-58A	CH-CCR-M58A-90817_O	9/8/2017	42986.31	0.002	0	0.2	0	0.0002	0	0.0022	1	0.7	0	0.002	0	0.0004	0
M-58A	CH-CCR-M58A-120817_O	12/8/2017	43077.43	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-58A	CH-CCR-M-58A-52118_O	5/21/2018	43241.55	0.001	0	0.2	0	0.0002	0	0.0018	1	0.7	1	0.001	0	0.0002	0
M-58A	CH-CCR-M58A-082818_O	8/28/2018	43340.40	NA	NA	NA	NA	NA	NA	0.0017	1	0.6	0	NA	NA	0.0001	0
M-58A	CH-CCR-M58A-21519	2/15/2019	43511.88	NA	NA	NA	NA	NA	NA	0.0018	NA	NA	NA	NA	NA	0.0001	0
M-58A	CH-CCR-M58A-41719	4/17/2019	43572.00	0.0005	0	0.2	0	0.0002	0	0.0018	1	0.7	0	0.0005	0	0.0001	0
M-58A	CH-CCR-M58A-8919	8/9/2019	43686.00	NA	NA	0.2	0	NA	NA	0.0018	1	0.7	0	NA	NA	0.0001	0
M-58A	CH-CCR-M58A-112519	11/25/2019	43794.38	NA	NA	NA	NA	NA	NA	0.0018	1	NA	NA	NA	NA	0.0001	0
M-58A	CH-CCR-M58-0420	4/16/2020	43937.00	0.0025	0	1	0	0.0002	0	0.0025	0	NA	NA	0.0025	0	0.0005	0
M-58A	CH-CCR-M58-1020	10/21/2020	44125.00	0.001	0	0.07	1	0.0002	0	0.0017	1	0.5	1	0.001	0	0.0002	0
M-58A	CH-CCR-M58-0421	04/14/2021	44300.00	0.001	0	0.071	1	0.0002	0	0.002	1	0.8	0	0.00099	1	0.0002	0
M-62A	7872_O	11/30/2015	11/30/2015	0.0005	0	0.2	0	0.0002	0	0.011	1	0.7	0	0.00071	1	0.0001	0
M-62A	CH-M-62A-0316_O	3/8/2016	3/8/2016	0.01	0	0.2	0	0.0002	0	0.0044	1	1	1	0.01	0	0.0005	1
M-62A	CH-CCR-MW62A-50516_O	5/5/2016	5/5/2016	0.0005	0	0.2	0	0.0002	0	0.0026	1	0.5	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-816_O	8/29/2016	8/29/2016	0.0005	0	0.2	0	0.0002	0	0.0023	1	0.9	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-916_O	9/21/2016	9/21/2016	0.0001	0	0.2	0	0.0002	0	0.0022	1	2	1	0.00078	1	0.0001	0
M-62A	CH-CCR-M62A-217_O	2/20/2017	2/20/2017	0.0005	0	0.2	0	0.0002	0	0.0019	1	1.4	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-41317_O	4/13/2017	4/13/2017	0.0005	0	0.2	0	0.0002	0	0.0023	1	1.2	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-42517_O	4/25/2017	4/25/2017	0.0005	0	0.2	0	0.0002	0	0.0022	1	0.9	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-51817_O	5/18/2017	5/18/2017	0.0005	0	0.2	0	0.0002	0	0.002	1	1.2	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-52517_O	5/25/2017	5/25/2017	0.0005	0	0.2	0	0.0002	0	0.0022	1	1.5	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-70117_O	7/1/2017	7/1/2017	0.0005	0	0.2	0	0.0002	0	0.0022	1	0.7	0	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-72617_O	7/26/2017	7/26/2017	0.001	0	0.2	0	0.0002	0	0.0021	1	1.3	1	0.001	0	0.0002	0
M-62A	CH-CCR-M62A-90717_O	9/7/2017	9/7/2017	0.002	0	0.2	0	0.0002	0	0.003	1	0.9	1	0.002	0	0.0004	0
M-62A	CH-CCR-M62A-120817_O	12/8/2017	12/8/2017	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
M-62A	CH-CCR-M-62A-52118_O	5/21/2018	5/21/2018	0.001	0	0.2	0	0.0002	0	0.0024	1	0.7	1	0.001	0	0.0002	0
M-62A	CH-CCR-M62A-082818_O	8/28/2018	8/28/2018	NA	NA	NA	NA	NA	NA	0.0023	1	0.5	1	NA	NA	0.0001	0
M-62A	CH-CCR-M62A-21519	2/15/2019	2/15/2019	NA	NA	NA	NA	NA	NA	0.0024	1	NA	NA	NA	NA	0.0001	0
M-62A	CH-CCR-M62A-112519	11/25/2019	11/25/2019	NA	NA	NA	NA	NA	NA	0.0091	1	NA	NA	NA	NA	0.00016	1
M-62A	CH-CCR-M62A-41819	4/18/2019	4/18/2019	0.0005	0	0.2	0	0.0002	0	0.0026	1	0.8	1	0.0005	0	0.0001	0
M-62A	CH-CCR-M62A-8919	8/9/2019	8/9/2019	NA	NA	0.2	0	NA	NA	0.0028	1	NA	NA	NA	NA	0.0001	0
M-62A	CH-CCR-M62-0420	4/16/2020	4/16/2020	0.0025	0	1	0	0.0002	0	0.004	1	NA	NA	0.0025	0	0.0005	0
M-62A	CH-CCR-M62-1020	10/20/2020	10/20/2020	0.002	1	0.09	1	0.0002	0	0.015	1	0.8	0	0.001	0	0.0002	0
M-62A	CH-CCR-M62-0421	04/14/2021	4/14/2021	0.001	0	0.092	1	0.0002	0	0.0041	1	0.8	0	0.0016	1	0.0002	0

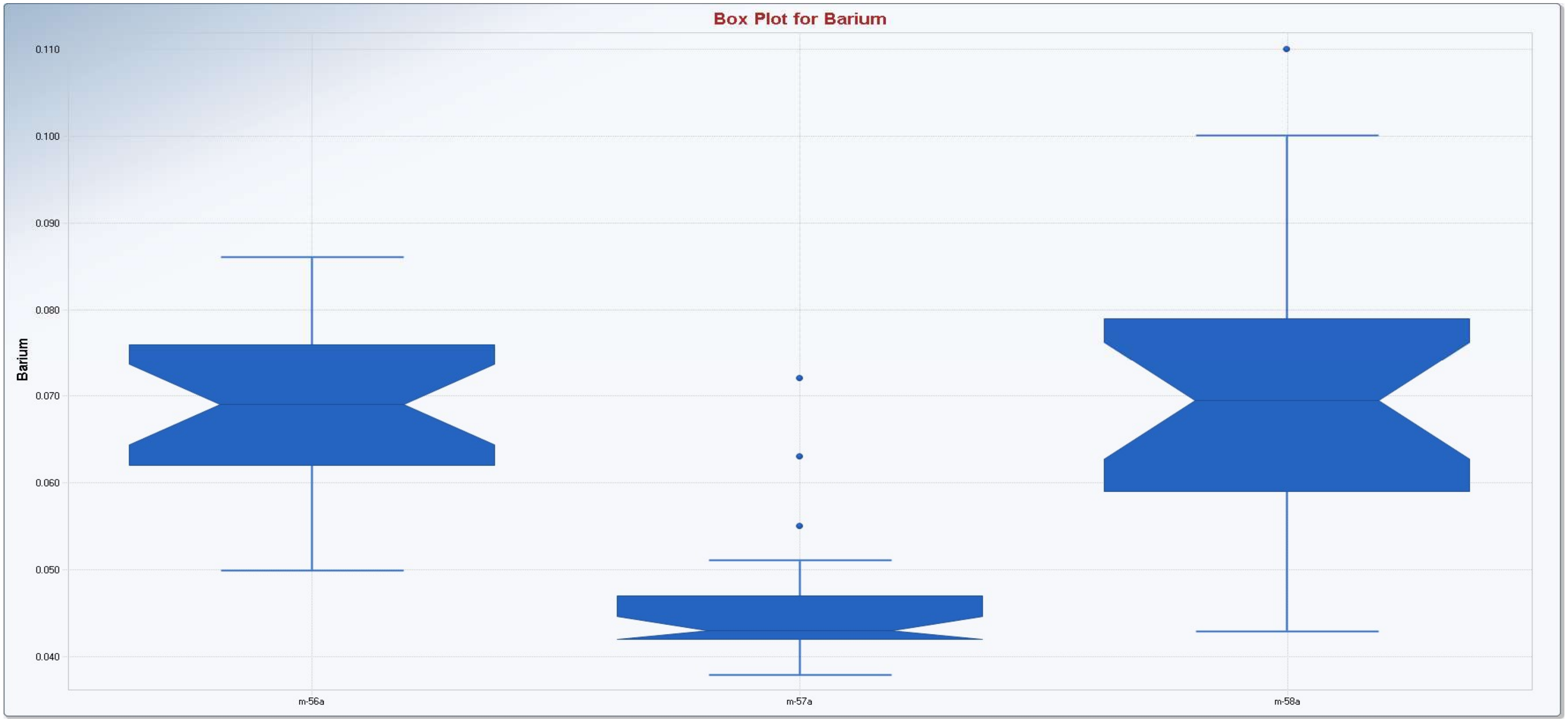
APPENDIX B

PROUCL EDA OUTPUT FILES

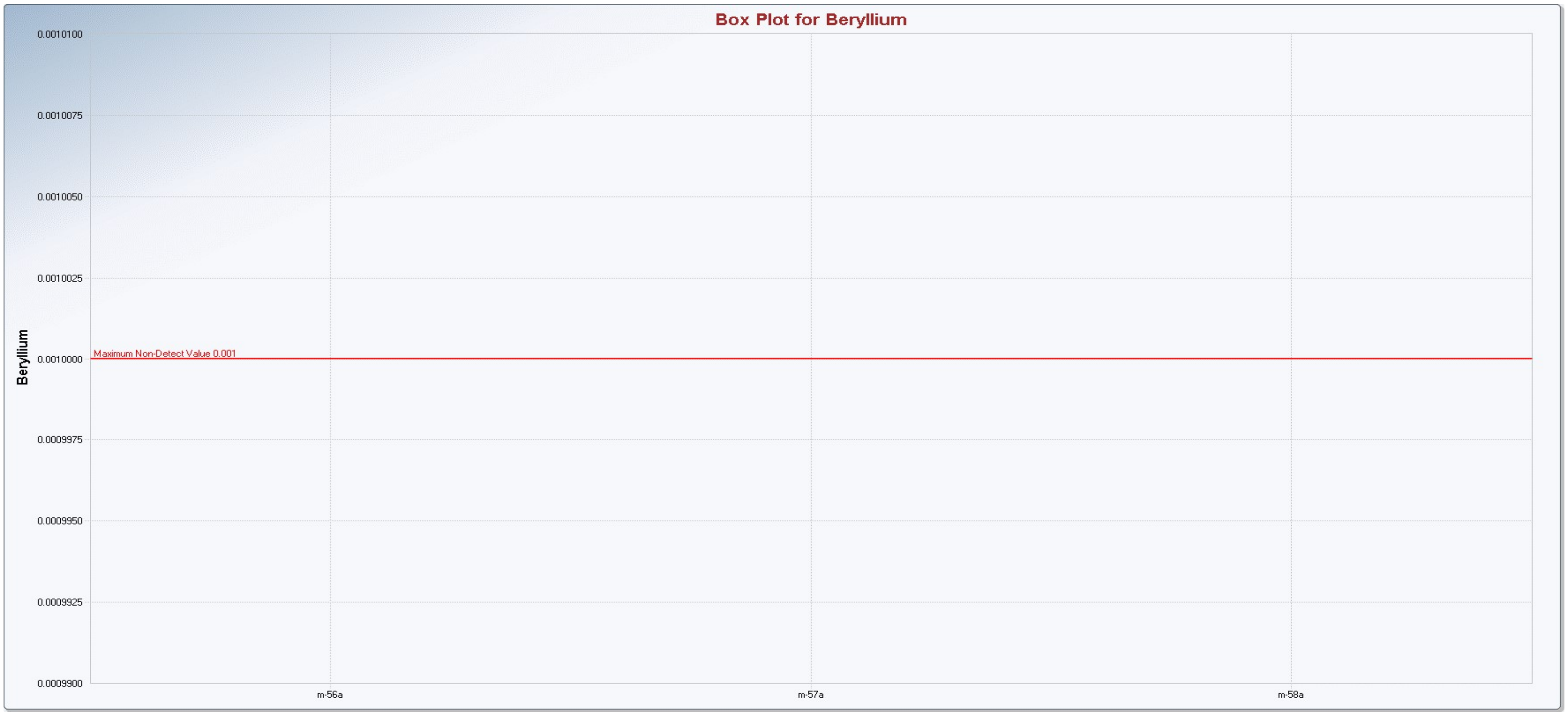
Appendix B
Box and Whisker Plots



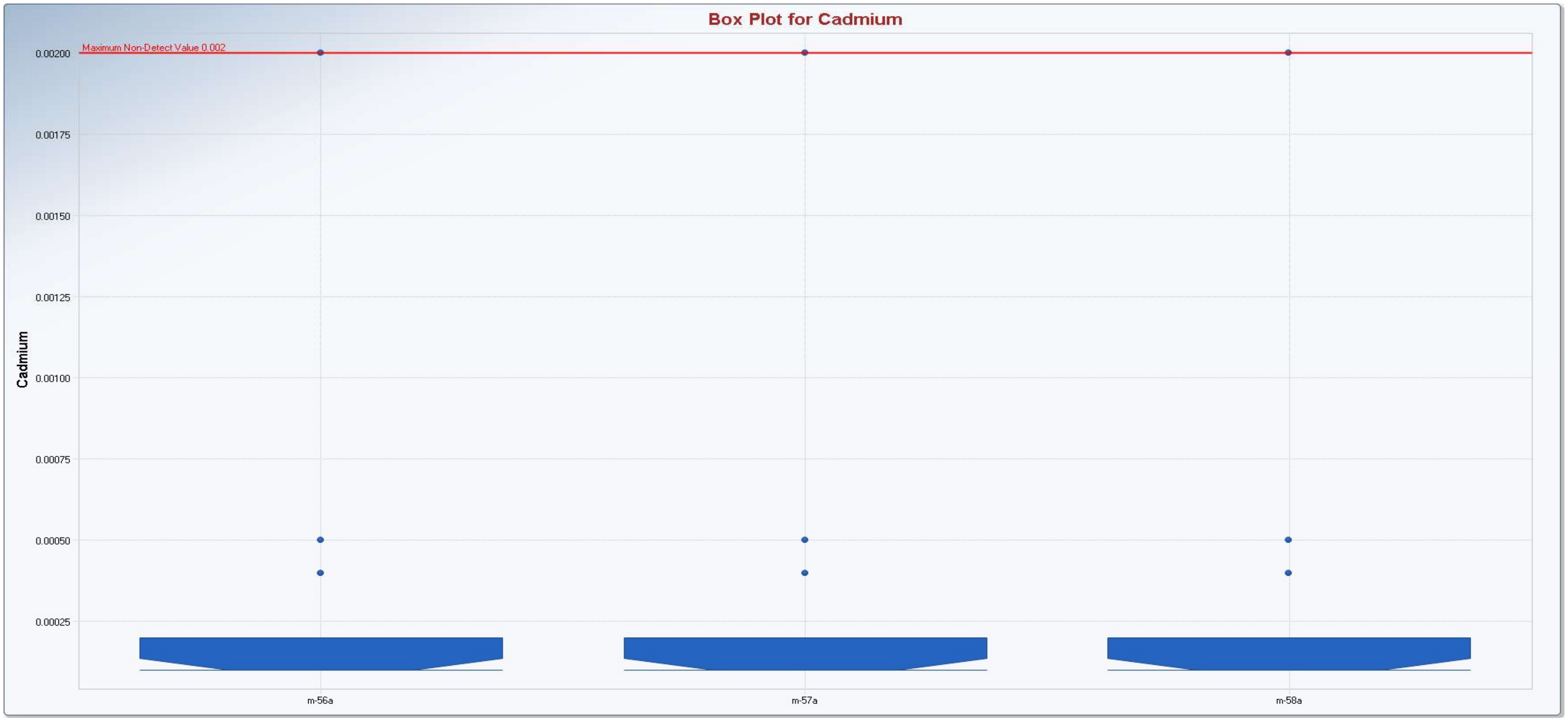
Appendix B
Box and Whisker Plots



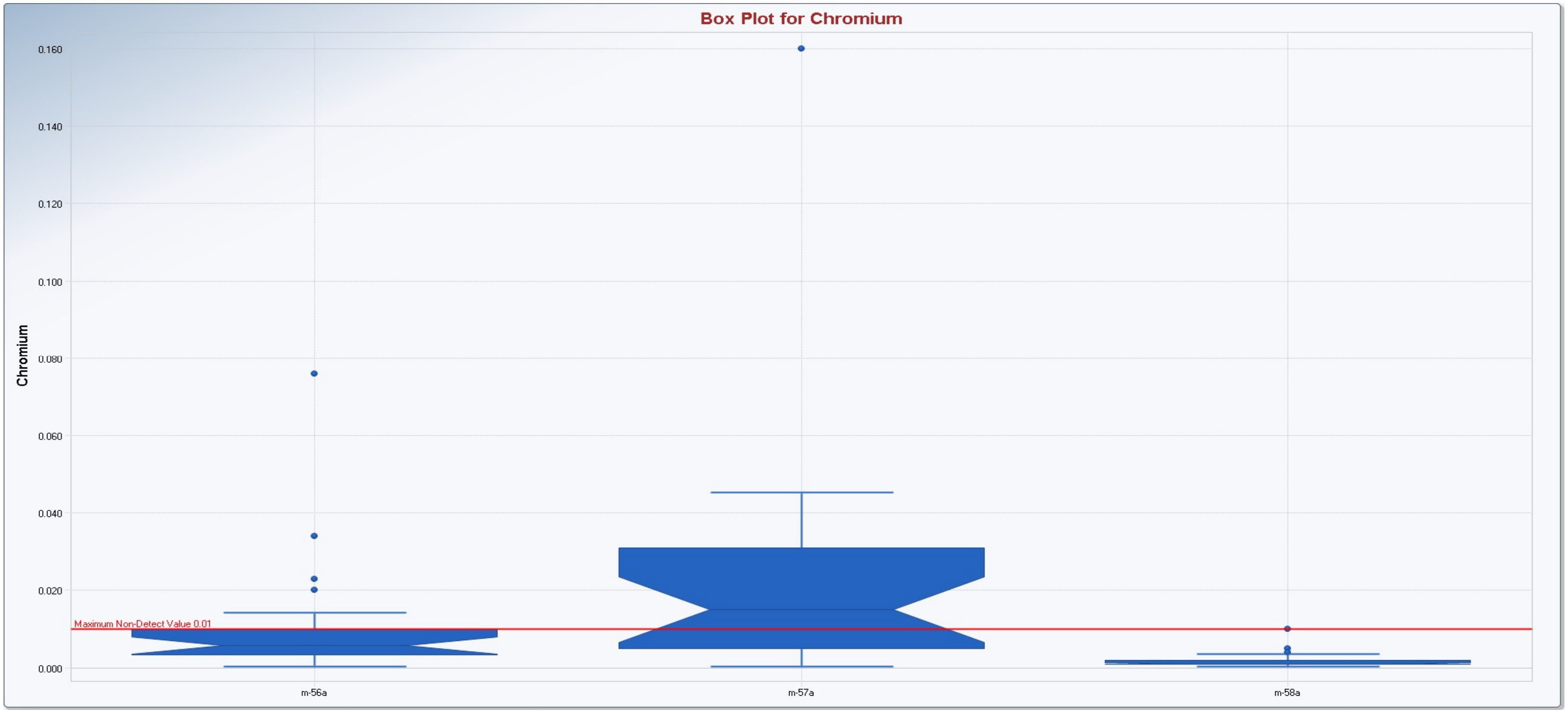
Appendix B
Box and Whisker Plots



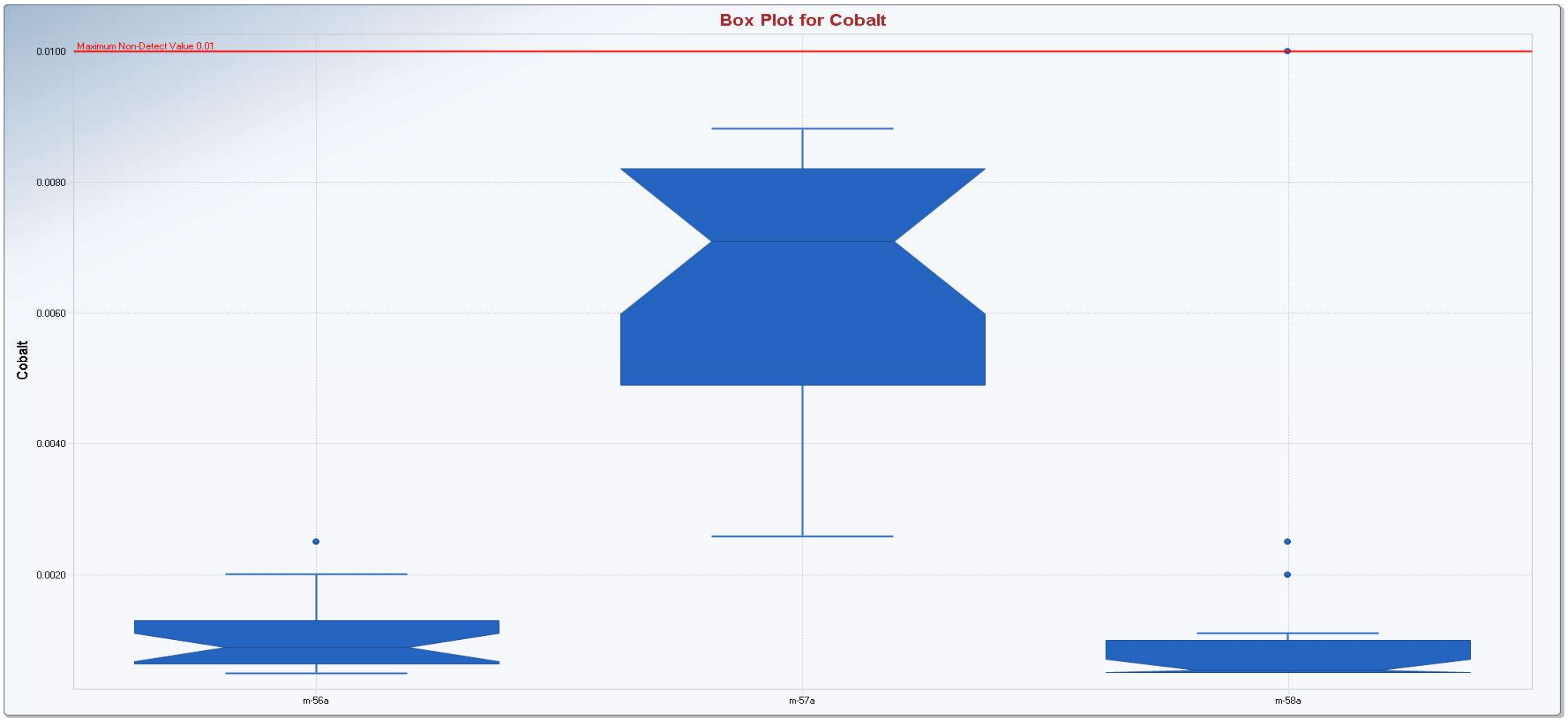
Appendix B
Box and Whisker Plots



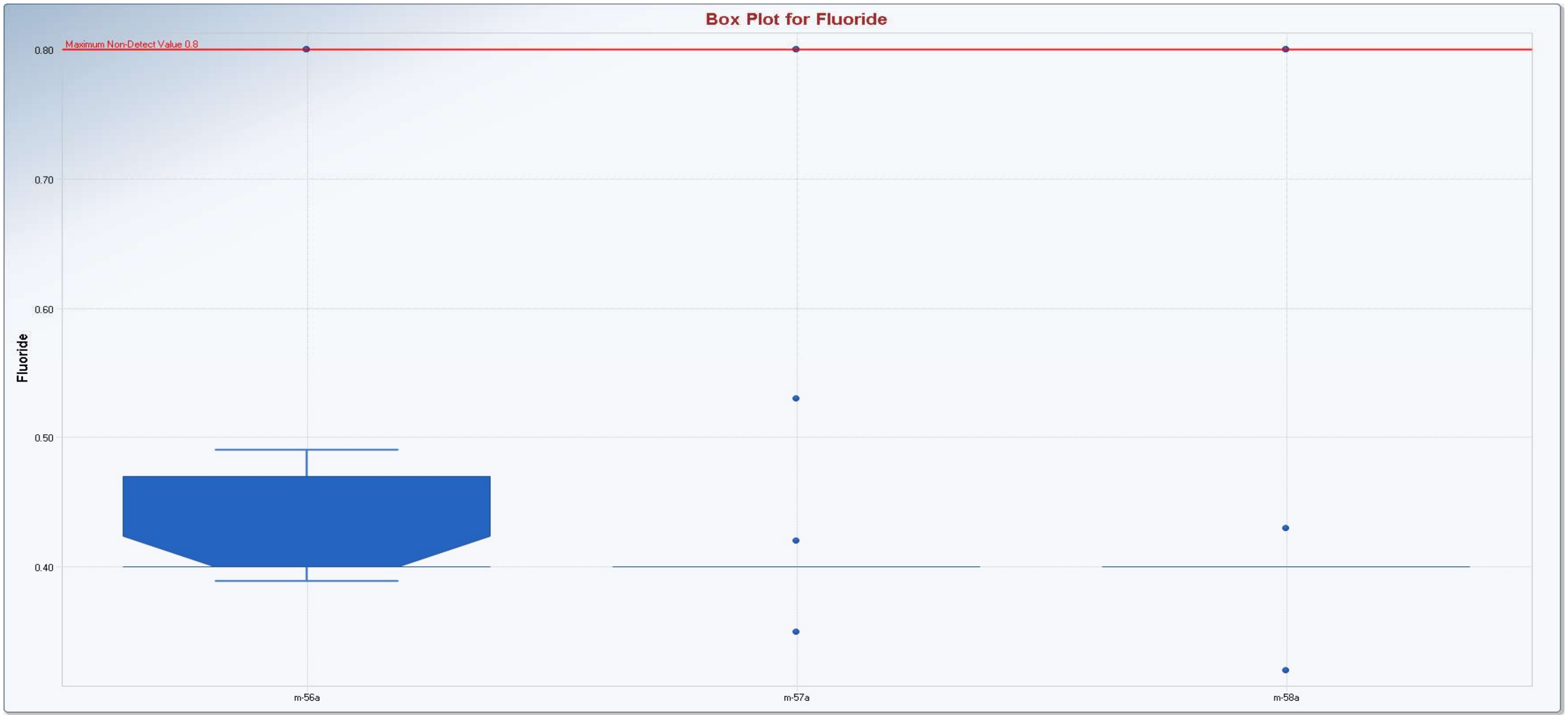
Appendix B
Box and Whisker Plots



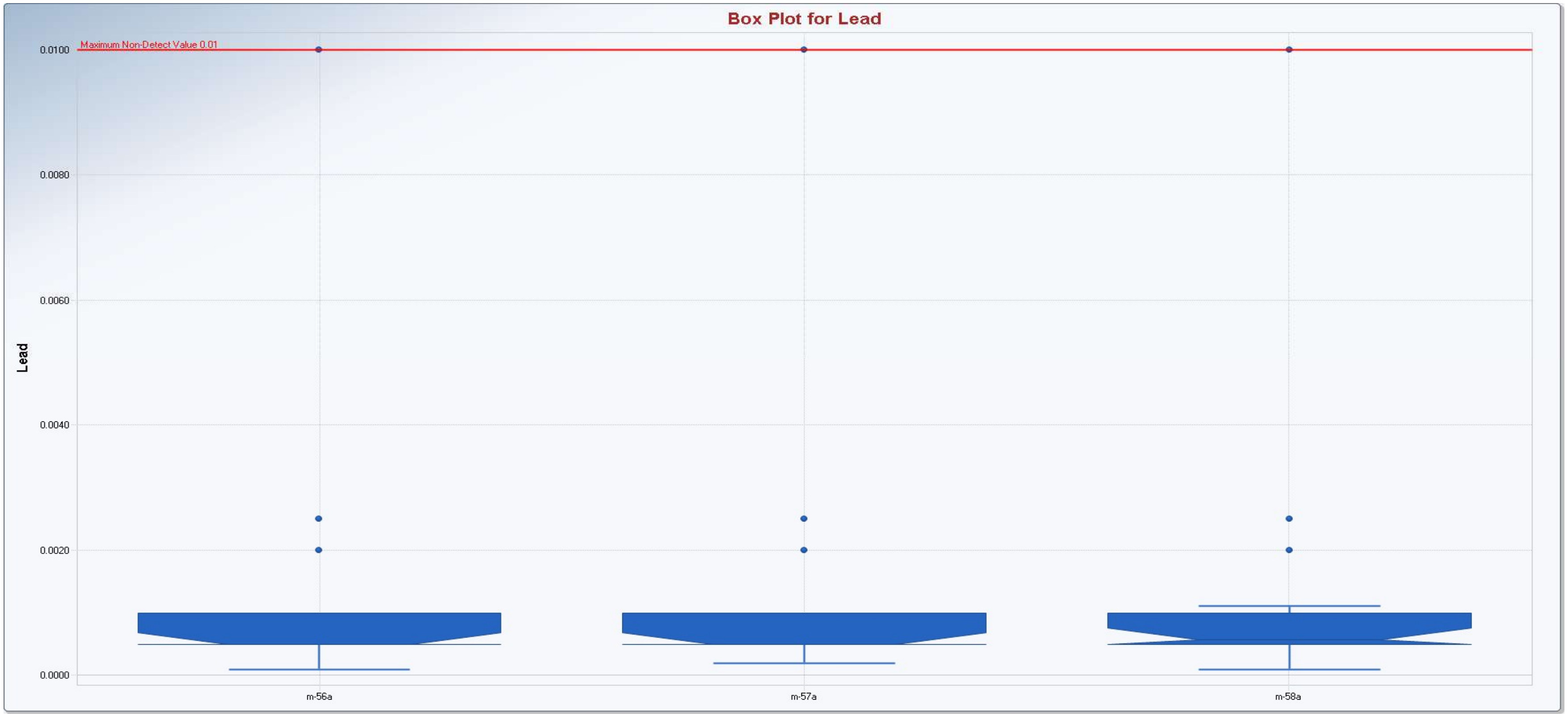
Appendix B
Box and Whisker Plots



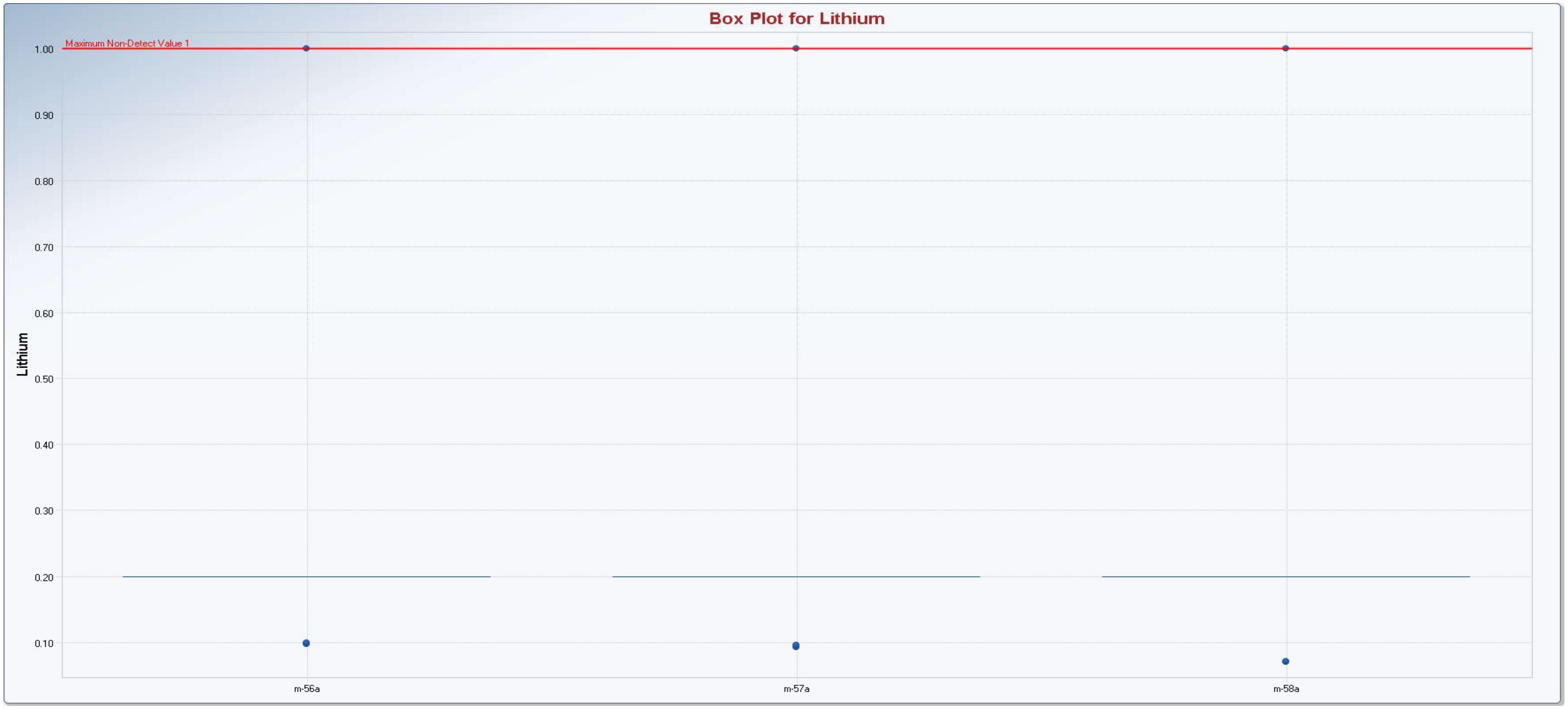
Appendix B
Box and Whisker Plots



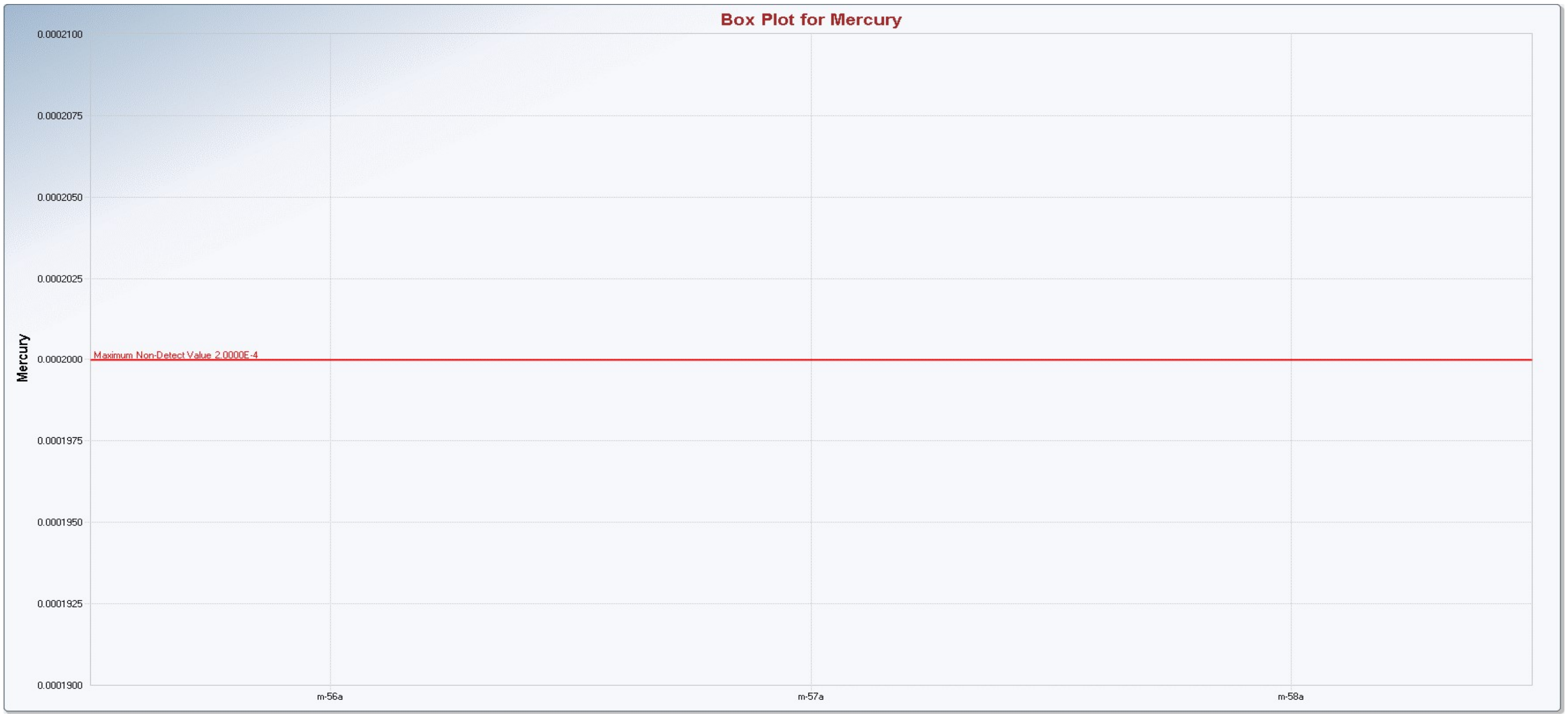
Appendix B
Box and Whisker Plots



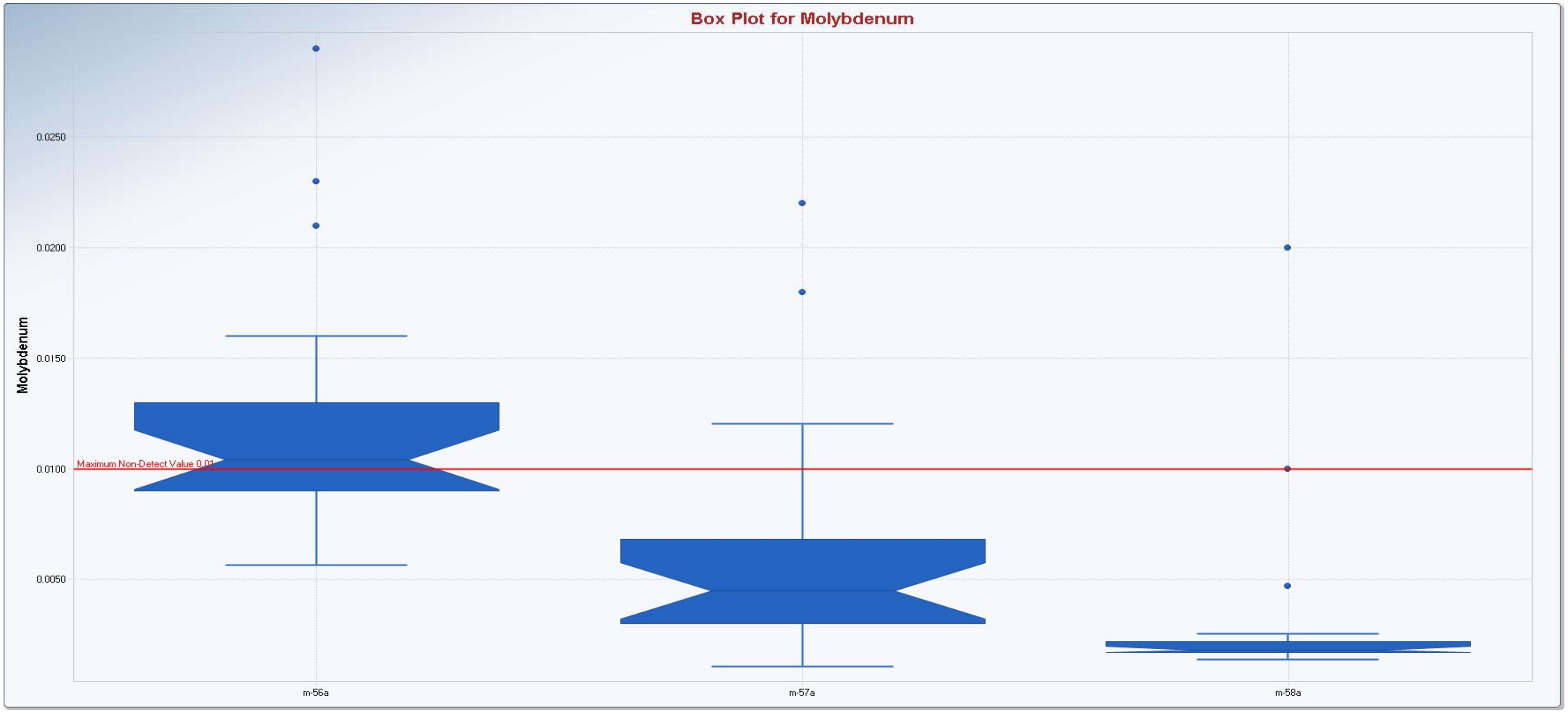
Appendix B
Box and Whisker Plots



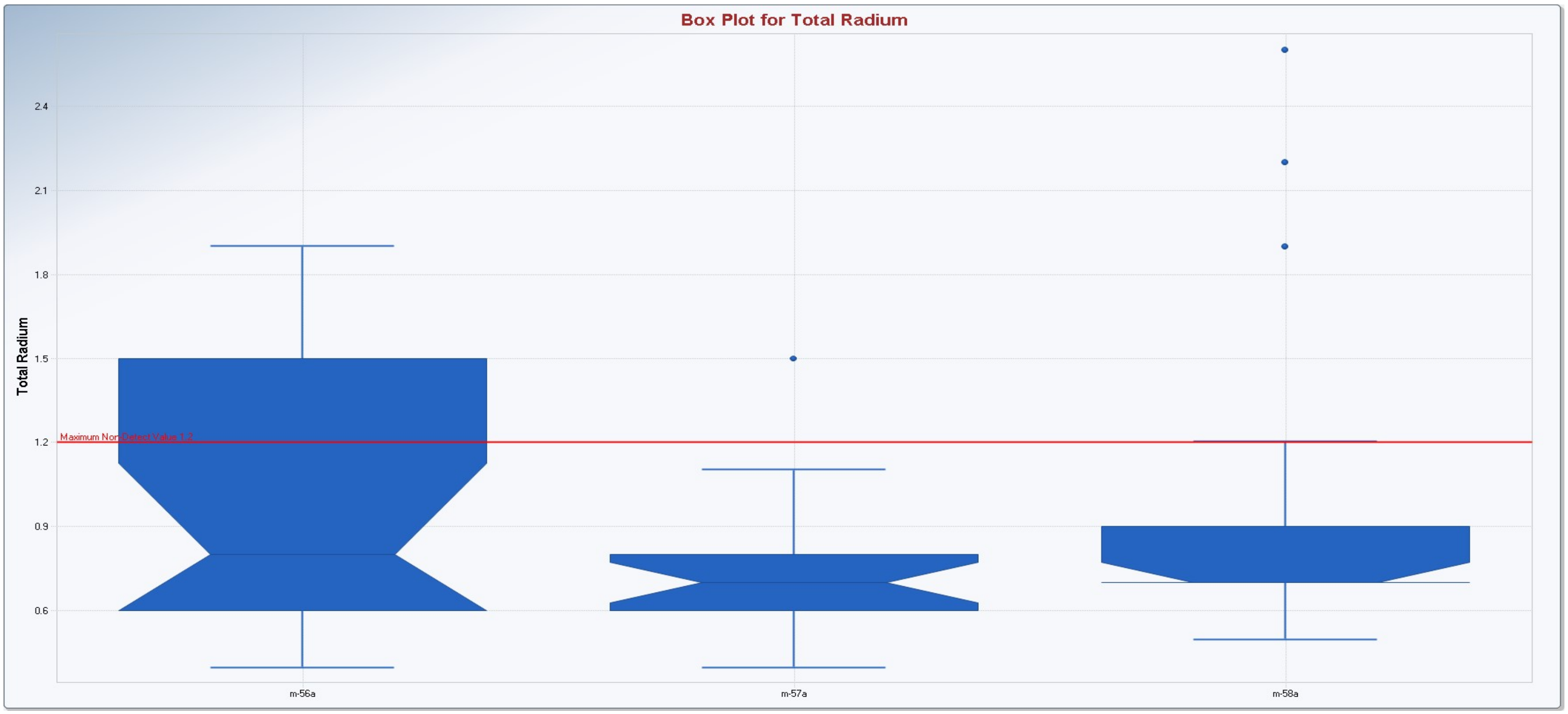
Appendix B
Box and Whisker Plots



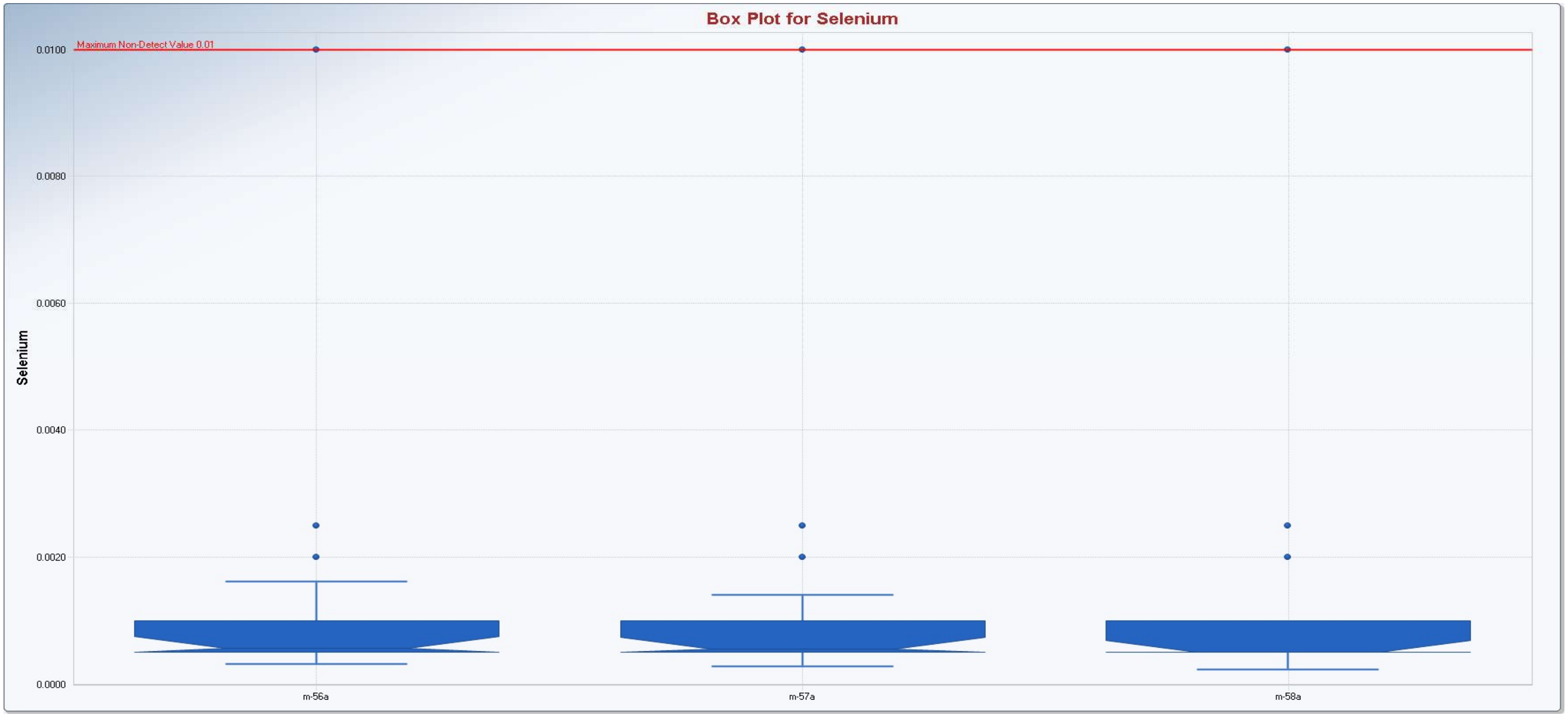
Appendix B
Box and Whisker Plots



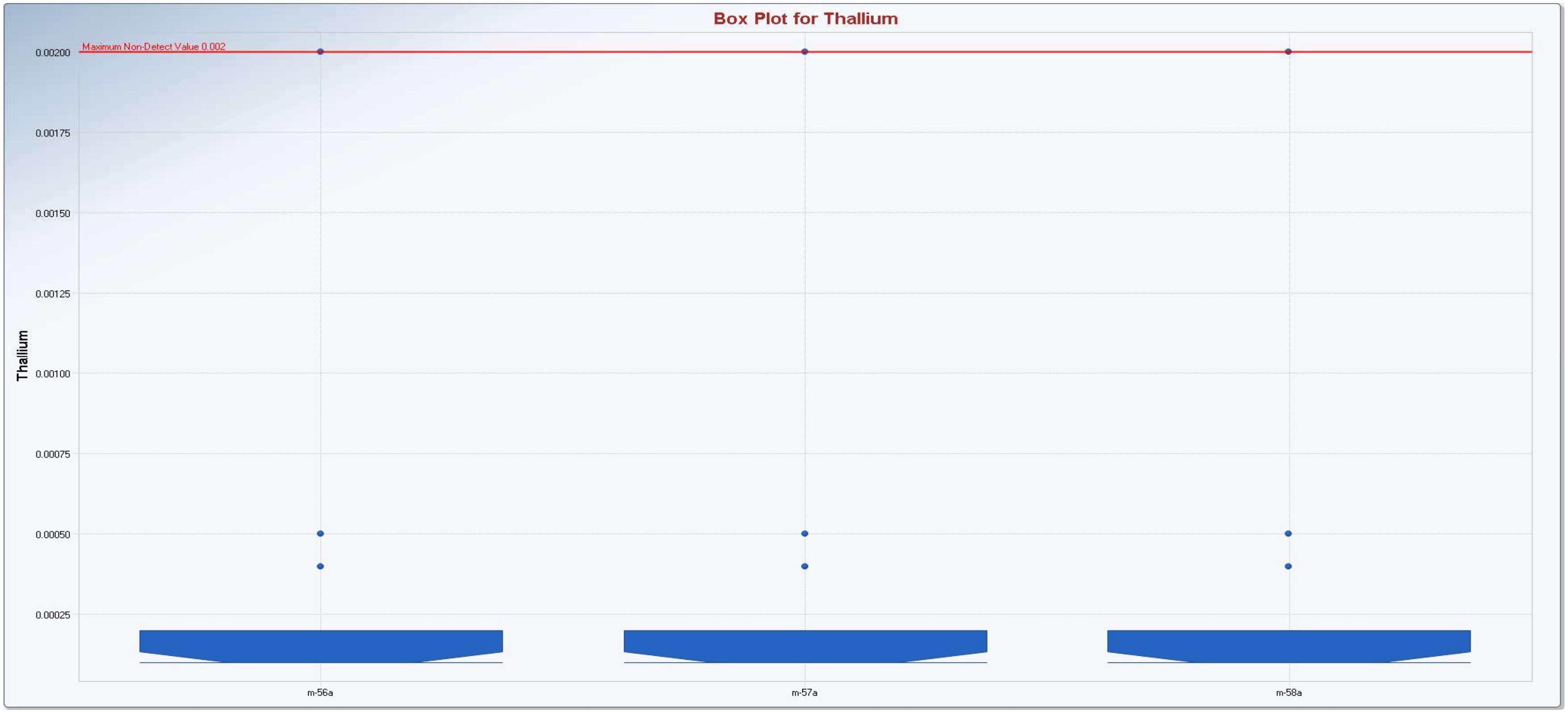
Appendix B
Box and Whisker Plots



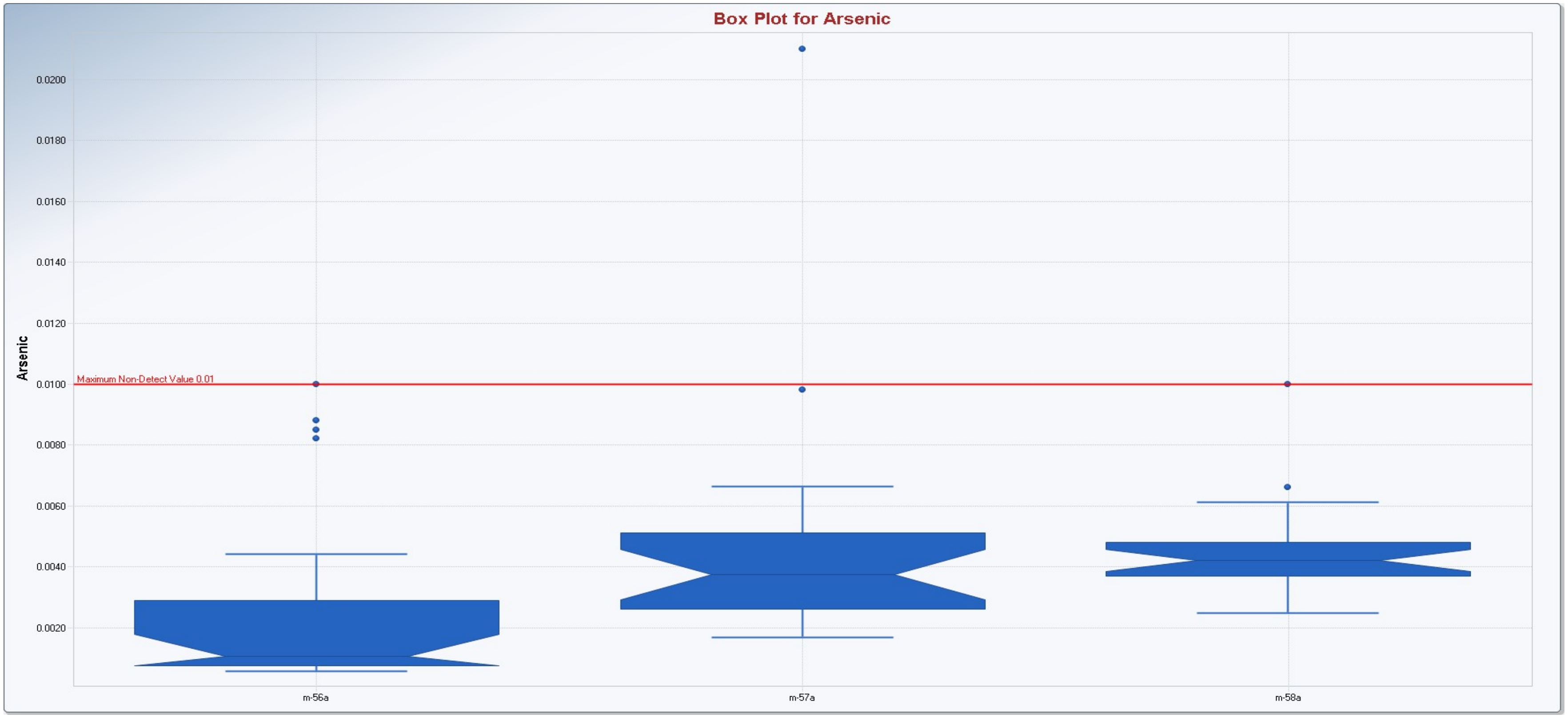
Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Box and Whisker Plots



Appendix B
Goodness of Fit Statistics

	Goodness-of-Fit Test Statistics for Data Sets with Non-Detects
User Selected Options	
Date/Time of Computation	ProUCL 5.19/6/2021 3:15:12 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95

Antimony (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	1	17	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-56a) was not processed!

Antimony (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	6	18	1	17	94.44%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Antimony (m-57a) was not processed!

Antimony (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		

The data set for variable Antimony (m-58a) was not processed!

Arsenic (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	1	22	18	4	18.18%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	4	0.001	0.01	0.00388	0.00225	0.00413
Statistics (Non-Detects Only)	18	6.0000E-4	0.0088	0.00248	8.8000E-4	0.00293
Statistics (All: NDs treated as DL value)	22	6.0000E-4	0.01	0.00273	0.00105	0.00312
Statistics (All: NDs treated as DL/2 value)	22	5.0000E-4	0.0088	0.00238	9.6500E-4	0.00276
Statistics (Normal ROS Imputed Data)	22	6.0000E-4	0.0088	0.00231	0.00102	0.00267
Statistics (Gamma ROS Imputed Data)	22	6.0000E-4	0.01	0.00385	0.0012	0.00397
Statistics (Lognormal ROS Imputed Data)	22	6.0000E-4	0.0088	0.00222	9.7992E-4	0.0027

	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	1.105	0.958	0.00224	-6.516	0.964	-0.148
Statistics (NDs = DL)	1.123	1	0.00243	-6.409	0.969	-0.151
Statistics (NDs = DL/2)	1.148	1.021	0.00207	-6.535	0.942	-0.144
Statistics (Gamma ROS Estimates)	0.954	0.855	0.00403	-6.169	1.149	-0.186
Statistics (Lognormal ROS Estimates)	--	--	--	-6.579	0.881	-0.134

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.812	0.832	0.82	0.802

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.652	0.897	Data Not Normal
Shapiro-Wilk (NDs = DL)	0.686	0.911	Data Not Normal
Shapiro-Wilk (NDs = DL/2)	0.668	0.911	Data Not Normal
Shapiro-Wilk (Normal ROS Estimates)	0.64	0.911	Data Not Normal
Lilliefors (Detects Only)	0.323	0.202	Data Not Normal
Lilliefors (NDs = DL)	0.275	0.184	Data Not Normal
Lilliefors (NDs = DL/2)	0.334	0.184	Data Not Normal

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (Normal ROS Estimates)	0.302	0.184	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.928	0.941	0.939	0.879				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	2.028	0.764						
Kolmogorov-Smirnov (Detects Only)	0.277	0.209	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	1.927	0.768						
Kolmogorov-Smirnov (NDs = DL)	0.238	0.19	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.153	0.767						
Kolmogorov-Smirnov (NDs = DL/2)	0.285	0.19	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	2.096	0.773						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.249	0.191	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.899	0.924	0.918	0.891				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.792	0.897	Data Not Lognormal					
Shapiro-Wilk (NDs = DL)	0.838	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.83	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.783	0.911	Data Not Lognormal					
Lilliefors (Detects Only)	0.241	0.202	Data Not Lognormal					
Lilliefors (NDs = DL)	0.207	0.184	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.228	0.184	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.241	0.184	Data Not Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Arsenic (m-57a)								
Raw Statistics								
Number of Valid Observations	22							
Number of Missing Observations	2							

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Number of Distinct Observations		17						
Minimum		0.0017						
Maximum		0.021						
Mean of Raw Data		0.00472						
Standard Deviation of Raw Data		0.00413						
Khat		2.55						
Theta hat		0.00185						
Kstar		2.232						
Theta star		0.00211						
Mean of Log Transformed Data		-5.565						
Standard Deviation of Log Transformed Data		0.599						
Normal GOF Test Results								
Correlation Coefficient R		0.778						
Shapiro Wilk Test Statistic		0.628						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		5.6369E-7						
Lilliefors Test Statistic		0.236						
Lilliefors Critical (0.05) Value		0.184						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.894						
A-D Test Statistic		0.913						
A-D Critical (0.05) Value		0.752						
K-S Test Statistic		0.17						
K-S Critical(0.05) Value		0.187						
Data follow Appr. Gamma Distribution at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.959						
Shapiro Wilk Test Statistic		0.926						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		0.0972						
Lilliefors Test Statistic		0.129						
Lilliefors Critical (0.05) Value		0.184						

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Data appear Lognormal at (0.05) Significance Level								
Arsenic (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	1	22	21	1	4.55%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	1	0.01	0.01	0.01	0.01	N/A		
Statistics (Non-Detects Only)	21	0.0025	0.0066	0.00425	0.0042	0.00104		
Statistics (All: NDs treated as DL value)	22	0.0025	0.01	0.00451	0.0042	0.00159		
Statistics (All: NDs treated as DL/2 value)	22	0.0025	0.0066	0.00428	0.0042	0.00103		
Statistics (Normal ROS Imputed Data)	22	0.0025	0.0066	0.00425	0.0042	0.00102		
Statistics (Gamma ROS Imputed Data)	22	0.0025	0.01	0.00451	0.0042	0.00159		
Statistics (Lognormal ROS Imputed Data)	22	0.0025	0.0066	0.00424	0.00416	0.00102		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	17.6	15.12	2.4131E-4	-5.49	0.247	-0.045		
Statistics (NDs = DL)	10.54	9.133	4.2781E-4	-5.45	0.306	-0.0562		
Statistics (NDs = DL/2)	18.04	15.61	2.3739E-4	-5.481	0.244	-0.0446		
Statistics (Gamma ROS Estimates)	10.54	9.133	4.2781E-4	-5.45	0.306	-0.0562		
Statistics (Lognormal ROS Estimates)	--	--	--	-5.49	0.241	-0.0439		
Normal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.983	0.897	0.987	0.981				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.965	0.908	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.823	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.974	0.911	Data Appear Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.962	0.911	Data Appear Normal					
Lilliefors (Detects Only)	0.109	0.188	Data Appear Normal					
Lilliefors (NDs = DL)	0.2	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.104	0.184	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.116	0.184	Data Appear Normal					
Gamma GOF Test Results								

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.991	0.939	0.993	0.939				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.219	0.743						
Kolmogorov-Smirnov (Detects Only)	0.123	0.189	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.544	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.152	0.185	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.187	0.741						
Kolmogorov-Smirnov (NDs = DL/2)	0.118	0.185	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.544	0.743						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.152	0.185	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.99	0.97	0.99	0.987				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.978	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.952	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.979	0.911	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.975	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.138	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.131	0.184	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.133	0.184	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.143	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Barium (m-56a)								
Raw Statistics								
Number of Valid Observations	22							
Number of Missing Observations	1							
Number of Distinct Observations	20							
Minimum	0.05							
Maximum	0.086							

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Mean of Raw Data		0.0684						
Standard Deviation of Raw Data		0.0107						
Khat		41.25						
Theta hat		0.00166						
Kstar		35.66						
Theta star		0.00192						
Mean of Log Transformed Data		-2.694						
Standard Deviation of Log Transformed Data		0.162						
Normal GOF Test Results								
Correlation Coefficient R		0.989						
Shapiro Wilk Test Statistic		0.965						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		0.582						
Lilliefors Test Statistic		0.0773						
Lilliefors Critical (0.05) Value		0.184						
Data appear Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.982						
A-D Test Statistic		0.295						
A-D Critical (0.05) Value		0.742						
K-S Test Statistic		0.085						
K-S Critical(0.05) Value		0.185						
Data appear Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.98						
Shapiro Wilk Test Statistic		0.948						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		0.287						
Lilliefors Test Statistic		0.0867						
Lilliefors Critical (0.05) Value		0.184						
Data appear Lognormal at (0.05) Significance Level								
Barium (m-57a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Raw Statistics								
Number of Valid Observations		22						
Number of Missing Observations		2						
Number of Distinct Observations		13						
Minimum		0.038						
Maximum		0.072						
Mean of Raw Data		0.046						
Standard Deviation of Raw Data		0.00804						
Khat		41.13						
Theta hat		0.00112						
Kstar		35.55						
Theta star		0.00129						
Mean of Log Transformed Data		-3.091						
Standard Deviation of Log Transformed Data		0.153						
Normal GOF Test Results								
Correlation Coefficient R		0.851						
Shapiro Wilk Test Statistic		0.737						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		2.4620E-5						
Lilliefors Test Statistic		0.269						
Lilliefors Critical (0.05) Value		0.184						
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R		0.883						
A-D Test Statistic		1.793						
A-D Critical (0.05) Value		0.742						
K-S Test Statistic		0.243						
K-S Critical(0.05) Value		0.185						
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R		0.89						
Shapiro Wilk Test Statistic		0.802						

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%			
Shapiro Wilk Critical (0.05) Value		0.911							
Approximate Shapiro Wilk P Value		3.1553E-4							
Lilliefors Test Statistic		0.231							
Lilliefors Critical (0.05) Value		0.184							
Data not Lognormal at (0.05) Significance Level									
Non-parametric GOF Test Results									
Data do not follow a discernible distribution at (0.05) Level of Significance									
Barium (m-58a)									
Raw Statistics									
Number of Valid Observations		22							
Number of Missing Observations		1							
Number of Distinct Observations		20							
Minimum		0.043							
Maximum		0.11							
Mean of Raw Data		0.0703							
Standard Deviation of Raw Data		0.0169							
Khat		18.78							
Theta hat		0.00374							
Kstar		16.25							
Theta star		0.00432							
Mean of Log Transformed Data		-2.682							
Standard Deviation of Log Transformed Data		0.237							
Normal GOF Test Results									
Correlation Coefficient R		0.979							
Shapiro Wilk Test Statistic		0.957							
Shapiro Wilk Critical (0.05) Value		0.911							
Approximate Shapiro Wilk P Value		0.433							
Lilliefors Test Statistic		0.126							
Lilliefors Critical (0.05) Value		0.184							
Data appear Normal at (0.05) Significance Level									
Gamma GOF Test Results									

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Correlation Coefficient R	0.989							
A-D Test Statistic	0.205							
A-D Critical (0.05) Value	0.741							
K-S Test Statistic	0.104							
K-S Critical(0.05) Value	0.185							
Data appear Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R	0.992							
Shapiro Wilk Test Statistic	0.983							
Shapiro Wilk Critical (0.05) Value	0.911							
Approximate Shapiro Wilk P Value	0.942							
Lilliefors Test Statistic	0.102							
Lilliefors Critical (0.05) Value	0.184							
Data appear Lognormal at (0.05) Significance Level								
Beryllium (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	5	18	0	18	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Beryllium (m-56a) was not processed!								
Beryllium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	6	18	0	18	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%

The data set for variable Beryllium (m-57a) was not processed!

Beryllium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Beryllium (m-58a) was not processed!

Cadmium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cadmium (m-56a) was not processed!

Cadmium (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	6	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		

The data set for variable Cadmium (m-57a) was not processed!

Cadmium (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Cadmium (m-58a) was not processed!

Chromium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	1	22	18	4	18.18%

	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	4	5.0000E-4	0.01	0.00375	0.00225	0.00448
Statistics (Non-Detects Only)	18	5.1000E-4	0.076	0.0129	0.0065	0.0179
Statistics (All: NDs treated as DL value)	22	5.0000E-4	0.076	0.0113	0.00575	0.0166
Statistics (All: NDs treated as DL/2 value)	22	2.5000E-4	0.076	0.0109	0.0051	0.0167
Statistics (Normal ROS Imputed Data)	22	-0.0236	0.076	0.00846	0.0049	0.0194
Statistics (Gamma ROS Imputed Data)	22	5.1000E-4	0.076	0.0124	0.00885	0.0162
Statistics (Lognormal ROS Imputed Data)	22	3.7134E-4	0.076	0.0108	0.0049	0.0168

	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	0.924	0.807	0.014	-4.978	1.176	-0.236
Statistics (NDs = DL)	0.803	0.724	0.014	-5.224	1.316	-0.252
Statistics (NDs = DL/2)	0.722	0.654	0.0151	-5.35	1.449	-0.271
Statistics (Gamma ROS Estimates)	1.097	0.978	0.0113	-4.91	1.069	-0.218
Statistics (Lognormal ROS Estimates)	--	--	--	-5.335	1.359	-0.255

Normal GOF Test Results

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.781	0.765	0.762	0.874				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.632	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.606	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.602	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.792	0.911	Data Not Normal					
Lilliefors (Detects Only)	0.303	0.202	Data Not Normal					
Lilliefors (NDs = DL)	0.303	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.312	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.255	0.184	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.953	0.95	0.955	0.927				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.546	0.77						
Kolmogorov-Smirnov (Detects Only)	0.199	0.21	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.529	0.78						
Kolmogorov-Smirnov (NDs = DL)	0.165	0.192	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.464	0.785						
Kolmogorov-Smirnov (NDs = DL/2)	0.167	0.193	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.685	0.768						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.229	0.19	Detected Data appear Approximate Gamma Distribution					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.985	0.977	0.977	0.99				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.98	0.897	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.951	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.955	0.911	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.977	0.911	Data Appear Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (Detects Only)	0.122	0.202	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.138	0.184	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.141	0.184	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.118	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Chromium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	1	23	20	3	13.04%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	3	5.0000E-4	0.01	0.00517	0.005	0.00475		
Statistics (Non-Detects Only)	20	6.6000E-4	0.16	0.0258	0.0165	0.0345		
Statistics (All: NDs treated as DL value)	23	5.0000E-4	0.16	0.0231	0.015	0.0329		
Statistics (All: NDs treated as DL/2 value)	23	2.5000E-4	0.16	0.0228	0.015	0.033		
Statistics (Normal ROS Imputed Data)	23	-0.0409	0.16	0.0197	0.015	0.0362		
Statistics (Gamma ROS Imputed Data)	23	6.6000E-4	0.16	0.0238	0.015	0.0325		
Statistics (Lognormal ROS Imputed Data)	23	4.6604E-4	0.16	0.0227	0.015	0.0331		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	0.864	0.767	0.0299	-4.337	1.371	-0.316		
Statistics (NDs = DL)	0.778	0.705	0.0297	-4.532	1.454	-0.321		
Statistics (NDs = DL/2)	0.716	0.652	0.0318	-4.623	1.555	-0.336		
Statistics (Gamma ROS Estimates)	0.922	0.831	0.0258	-4.372	1.278	-0.292		
Statistics (Lognormal ROS Estimates)	--	--	--	-4.641	1.53	-0.33		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.764	0.755	0.757	0.841				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.611	0.905	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.596	0.914	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.599	0.914	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.742	0.914	Data Not Normal					
Lilliefors (Detects Only)	0.239	0.192	Data Not Normal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (NDs = DL)	0.245	0.18	Data Not Normal					
Lilliefors (NDs = DL/2)	0.248	0.18	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.199	0.18	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.917	0.919	0.924	0.907				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.343	0.774						
Kolmogorov-Smirnov (Detects Only)	0.13	0.2	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	0.302	0.781						
Kolmogorov-Smirnov (NDs = DL)	0.11	0.188	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.261	0.785						
Kolmogorov-Smirnov (NDs = DL/2)	0.109	0.189	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.397	0.773						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.111	0.187	Data Appear Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.961	0.967	0.97	0.973				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.927	0.905	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.934	0.914	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.944	0.914	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.944	0.914	Data Appear Lognormal					
Lilliefors (Detects Only)	0.175	0.192	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.139	0.18	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.16	0.18	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.165	0.18	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Chromium (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Raw Statistics	23	1	22	8	14	63.64%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	14	5.0000E-4	0.01	0.00225	0.001	0.0026
Statistics (Non-Detects Only)	8	5.2000E-4	0.0033	0.00151	9.8500E-4	0.00109
Statistics (All: NDs treated as DL value)	22	5.0000E-4	0.01	0.00198	0.001	0.00217
Statistics (All: NDs treated as DL/2 value)	22	2.5000E-4	0.005	0.00126	9.4000E-4	0.00122
Statistics (Normal ROS Imputed Data)	22	-0.00152	0.0033	5.1335E-4	5.0049E-4	0.00118
Statistics (Gamma ROS Imputed Data)	22	5.2000E-4	0.01	0.00691	0.01	0.00423
Statistics (Lognormal ROS Imputed Data)	22	1.6024E-4	0.0033	8.5546E-4	6.0878E-4	8.2775E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	2.409	1.589	6.2517E-4	-6.72	0.706	-0.105
Statistics (NDs = DL)	1.483	1.311	0.00134	-6.599	0.827	-0.125
Statistics (NDs = DL/2)	1.512	1.336	8.3598E-4	-7.04	0.858	-0.122
Statistics (Gamma ROS Estimates)	1.395	1.235	0.00496	-5.374	1.118	-0.208
Statistics (Lognormal ROS Estimates)	--	--	--	-7.382	0.782	-0.106
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.915	0.805	0.872	0.965		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.821	0.818	Data Appear Normal			
Shapiro-Wilk (NDs = DL)	0.666	0.911	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.766	0.911	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.935	0.911	Data Appear Normal			
Lilliefors (Detects Only)	0.304	0.283	Data Not Normal			
Lilliefors (NDs = DL)	0.269	0.184	Data Not Normal			
Lilliefors (NDs = DL/2)	0.313	0.184	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.168	0.184	Data Appear Normal			
	Gamma GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	0.958	0.947	0.979	0.659		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Anderson-Darling (Detects Only)	0.492	0.723						
Kolmogorov-Smirnov (Detects Only)	0.27	0.297	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.108	0.759						
Kolmogorov-Smirnov (NDs = DL)	0.267	0.189	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.893	0.759						
Kolmogorov-Smirnov (NDs = DL/2)	0.227	0.189	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	3.385	0.761						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.407	0.189	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.962	0.959	0.972	0.979				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.903	0.818	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.914	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.936	0.911	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.957	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.23	0.283	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.237	0.184	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.166	0.184	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.135	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Cobalt (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	1	22	14	8	36.36%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	8	5.0000E-4	0.0025	0.00106	7.5000E-4	7.7632E-4		
Statistics (Non-Detects Only)	14	6.1000E-4	0.002	0.00103	9.8500E-4	3.9663E-4		
Statistics (All: NDs treated as DL value)	22	5.0000E-4	0.0025	0.00104	8.8500E-4	5.4643E-4		
Statistics (All: NDs treated as DL/2 value)	22	2.5000E-4	0.002	8.4682E-4	7.4000E-4	4.5522E-4		
Statistics (Normal ROS Imputed Data)	22	-8.038E-5	0.002	8.0095E-4	7.4000E-4	4.7528E-4		
Statistics (Gamma ROS Imputed Data)	22	6.1000E-4	0.01	0.00429	0.0013	0.00443		
Statistics (Lognormal ROS Imputed Data)	22	3.4414E-4	0.002	8.5791E-4	7.4000E-4	3.9871E-4		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	7.962	6.303	1.2901E-4	-6.945	0.366	-0.0528		
Statistics (NDs = DL)	4.476	3.896	2.3235E-4	-6.984	0.482	-0.069		
Statistics (NDs = DL/2)	3.236	2.825	2.6171E-4	-7.236	0.621	-0.0858		
Statistics (Gamma ROS Estimates)	0.909	0.815	0.00472	-6.094	1.188	-0.195		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.155	0.441	-0.0616		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.916	0.924	0.961	0.971				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.843	0.874	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.851	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.921	0.911	Data Appear Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.95	0.911	Data Appear Normal					
Lilliefors (Detects Only)	0.242	0.226	Data Not Normal					
Lilliefors (NDs = DL)	0.189	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.158	0.184	Data Appear Normal					
Lilliefors (Normal ROS Estimates)	0.188	0.184	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.945	0.973	0.966	0.804				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.86	0.736						
Kolmogorov-Smirnov (Detects Only)	0.244	0.229	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	0.651	0.747						
Kolmogorov-Smirnov (NDs = DL)	0.171	0.186	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	0.639	0.749						
Kolmogorov-Smirnov (NDs = DL/2)	0.165	0.187	Data Appear Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	2.746	0.775						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.308	0.191	Data Not Gamma Distributed					
	Lognormal GOF Test Results							

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.942	0.971	0.955	0.979				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.88	0.874	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.931	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.901	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.957	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.23	0.226	Data Not Lognormal					
Lilliefors (NDs = DL)	0.149	0.184	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.159	0.184	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.188	0.184	Data Not Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Cobalt (m-57a)								
Raw Statistics								
Number of Valid Observations		22						
Number of Missing Observations		2						
Number of Distinct Observations		19						
Minimum		0.0026						
Maximum		0.0088						
Mean of Raw Data		0.00638						
Standard Deviation of Raw Data		0.00206						
Khat		7.949						
Theta hat		8.0226E-4						
Kstar		6.895						
Theta star		9.2485E-4						
Mean of Log Transformed Data		-5.119						
Standard Deviation of Log Transformed Data		0.392						
Normal GOF Test Results								
Correlation Coefficient R		0.954						
Shapiro Wilk Test Statistic		0.893						
Shapiro Wilk Critical (0.05) Value		0.911						
Approximate Shapiro Wilk P Value		0.0196						

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Lilliefors Test Statistic	0.207					
Lilliefors Critical (0.05) Value	0.184					
Data not Normal at (0.05) Significance Level						
Gamma GOF Test Results						
Correlation Coefficient R	0.909					
A-D Test Statistic	1.148					
A-D Critical (0.05) Value	0.745					
K-S Test Statistic	0.221					
K-S Critical(0.05) Value	0.186					
Data not Gamma Distributed at (0.05) Significance Level						
Lognormal GOF Test Results						
Correlation Coefficient R	0.923					
Shapiro Wilk Test Statistic	0.84					
Shapiro Wilk Critical (0.05) Value	0.911					
Approximate Shapiro Wilk P Value	0.00166					
Lilliefors Test Statistic	0.218					
Lilliefors Critical (0.05) Value	0.184					
Data not Lognormal at (0.05) Significance Level						
Non-parametric GOF Test Results						
Data do not follow a discernible distribution at (0.05) Level of Significance						
Cobalt (m-58a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	1	22	6	16	72.73%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	16	5.0000E-4	0.01	0.00141	5.0000E-4	0.00237
Statistics (Non-Detects Only)	6	5.1000E-4	0.0011	8.2333E-4	8.8000E-4	2.4196E-4
Statistics (All: NDs treated as DL value)	22	5.0000E-4	0.01	0.00125	5.4000E-4	0.00202
Statistics (All: NDs treated as DL/2 value)	22	2.5000E-4	0.005	7.3591E-4	5.0000E-4	0.00101
Statistics (Normal ROS Imputed Data)	22	-3.221E-4	0.0011	3.7378E-4	3.6646E-4	3.6671E-4
Statistics (Gamma ROS Imputed Data)	22	5.1000E-4	0.01	0.0075	0.01	0.00418

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Statistics (Lognormal ROS Imputed Data)	22	1.8373E-4	0.0011	4.9713E-4	4.4190E-4	2.5198E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	12.67	6.444	6.5004E-5	-7.142	0.318	-0.0445		
Statistics (NDs = DL)	1.326	1.176	9.4036E-4	-7.109	0.736	-0.104		
Statistics (NDs = DL/2)	1.398	1.237	5.2658E-4	-7.613	0.793	-0.104		
Statistics (Gamma ROS Estimates)	1.381	1.223	0.00543	-5.297	1.167	-0.22		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.715	0.469	-0.0608		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.965	0.605	0.679	0.986				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.909	0.788	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.393	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.487	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.97	0.911	Data Appear Normal					
Lilliefors (Detects Only)	0.228	0.325	Data Appear Normal					
Lilliefors (NDs = DL)	0.393	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.315	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.117	0.184	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.944	0.801	0.848	0.574				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.407	0.698						
Kolmogorov-Smirnov (Detects Only)	0.256	0.332	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	3.149	0.763						
Kolmogorov-Smirnov (NDs = DL)	0.303	0.189	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.836	0.761						
Kolmogorov-Smirnov (NDs = DL/2)	0.237	0.189	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	4.836	0.762						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.465	0.189	Data Not Gamma Distributed					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.954	0.833	0.9	0.984				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.888	0.788	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.704	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.812	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.964	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.239	0.325	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.252	0.184	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.259	0.184	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.119	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Fluoride (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	1	22	9	13	59.09%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	13	0.4	0.8	0.523	0.4	0.192		
Statistics (Non-Detects Only)	9	0.39	0.49	0.43	0.42	0.0354		
Statistics (All: NDs treated as DL value)	22	0.39	0.8	0.485	0.4	0.154		
Statistics (All: NDs treated as DL/2 value)	22	0.2	0.49	0.33	0.4	0.114		
Statistics (Normal ROS Imputed Data)	22	0.316	0.49	0.396	0.393	0.0435		
Statistics (Gamma ROS Imputed Data)	22	0.321	0.49	0.397	0.393	0.0427		
Statistics (Lognormal ROS Imputed Data)	22	0.33	0.49	0.399	0.393	0.0405		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	170.4	113.7	0.00252	-0.847	0.0808	-0.0954		
Statistics (NDs = DL)	13.23	11.45	0.0367	-0.762	0.267	-0.35		
Statistics (NDs = DL/2)	7.954	6.899	0.0415	-1.171	0.377	-0.322		
Statistics (Gamma ROS Estimates)	91.85	79.36	0.00432	-0.93	0.107	-0.115		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.925	0.1	-0.108		
Normal GOF Test Results								

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.961	0.768	0.887	0.992				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.909	0.829	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.583	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.767	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.983	0.911	Data Appear Normal					
Lilliefors (Detects Only)	0.167	0.274	Data Appear Normal					
Lilliefors (NDs = DL)	0.321	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.291	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.103	0.184	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.966	0.817	0.873	0.994				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.414	0.72						
Kolmogorov-Smirnov (Detects Only)	0.167	0.279	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	4.087	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.314	0.185	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.815	0.745						
Kolmogorov-Smirnov (NDs = DL/2)	0.316	0.186	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.149	0.741						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.0913	0.185	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.966	0.791	0.866	0.992				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.916	0.829	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.617	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.73	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.983	0.911	Data Appear Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Lilliefors (Detects Only)	0.156	0.274	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.303	0.184	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.32	0.184	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.103	0.184	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Fluoride (m-57a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	2	22	3	19	86.36%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	19	0.4	0.8	0.463	0.4	0.15
Statistics (Non-Detects Only)	3	0.35	0.53	0.433	0.42	0.0907
Statistics (All: NDs treated as DL value)	22	0.35	0.8	0.459	0.4	0.142
Statistics (All: NDs treated as DL/2 value)	22	0.2	0.53	0.259	0.2	0.103
Statistics (Normal ROS Imputed Data)	22	0.227	0.53	0.353	0.351	0.0675
Statistics (Gamma ROS Imputed Data)	22	0.246	0.53	0.355	0.35	0.0632
Statistics (Lognormal ROS Imputed Data)	22	0.263	0.53	0.358	0.351	0.0589
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (NDs = DL)	14.73	12.75	0.0312	-0.813	0.249	-0.307
Statistics (NDs = DL/2)	8.376	7.264	0.0309	-1.411	0.338	-0.239
Statistics (Gamma ROS Estimates)	34.2	29.57	0.0104	-1.051	0.175	-0.166
Statistics (Lognormal ROS Estimates)	--	--	--	-1.04	0.158	-0.152
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	0.992	0.715	0.788	0.983		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.984	0.767	Data Appear Normal			
Shapiro-Wilk (NDs = DL)	0.515	0.911	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.62	0.911	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.976	0.911	Data Appear Normal			
Lilliefors (Detects Only)	0.225	0.425	Data Appear Normal			

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (NDs = DL)	0.434	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.444	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0833	0.184	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.769	0.852	0.985				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	5.149	0.742						
Kolmogorov-Smirnov (NDs = DL)	0.439	0.185	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	4.409	0.745						
Kolmogorov-Smirnov (NDs = DL/2)	0.453	0.186	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.14	0.742						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.0758	0.185	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.998	0.736	0.786	0.986				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.995	0.767	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.547	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.612	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.981	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.199	0.425	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.434	0.184	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.449	0.184	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.0821	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Fluoride (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Raw Statistics	23	1	22	2	20	90.91%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	20	0.4	0.8	0.48	0.4	0.164		
Statistics (Non-Detects Only)	2	0.32	0.43	0.375	0.375	0.0778		
Statistics (All: NDs treated as DL value)	22	0.32	0.8	0.47	0.4	0.16		
Statistics (All: NDs treated as DL/2 value)	22	0.2	0.43	0.252	0.2	0.0892		
Statistics (Normal ROS Imputed Data)	22	0.236	0.43	0.324	0.322	0.0469		
Statistics (Gamma ROS Imputed Data)	22	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Imputed Data)	22	0.255	0.43	0.326	0.322	0.0417		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	11.77	10.2	0.04	-0.797	0.282	-0.353		
Statistics (NDs = DL/2)	10.16	8.807	0.0248	-1.427	0.308	-0.216		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-1.127	0.126	-0.112		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.736	0.777	0.997				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.542	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.595	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.995	0.911	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.443	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.448	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0563	0.184	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.785	0.826	0.997				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	5.112	0.743						
Kolmogorov-Smirnov (NDs = DL)	0.444	0.185	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	4.673	0.744						
Kolmogorov-Smirnov (NDs = DL/2)	0.455	0.185	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.741						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.185						
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	1	0.756	0.775	N/A				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.575	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.59	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.995	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.437	0.184	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.45	0.184	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.0563	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Lead (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	5	18	0	18	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Lead (m-56a) was not processed!								
Lead (m-57a)								

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	6	18	2	16	88.89%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	16	5.0000E-4	0.01	0.00144	5.0000E-4	0.00236
Statistics (Non-Detects Only)	2	2.1000E-4	8.6000E-4	5.3500E-4	5.3500E-4	4.5962E-4
Statistics (All: NDs treated as DL value)	18	2.1000E-4	0.01	0.00134	5.0000E-4	0.00224
Statistics (All: NDs treated as DL/2 value)	18	2.1000E-4	0.005	6.9833E-4	2.5000E-4	0.00111
Statistics (Normal ROS Imputed Data)	18	-2.297E-4	8.6000E-4	2.5595E-4	2.5112E-4	2.5981E-4
Statistics (Gamma ROS Imputed Data)	18	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Imputed Data)	18	8.0909E-5	8.6000E-4	2.7213E-4	2.2959E-4	1.8068E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (NDs = DL)	1.108	0.96	0.00121	-7.132	0.857	-0.12
Statistics (NDs = DL/2)	1.177	1.018	5.9313E-4	-7.748	0.826	-0.107
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Estimates)	--	--	--	-8.369	0.564	-0.0673
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		
Correlation Coefficient R	1	0.64	0.649	0.984		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (NDs = DL)	0.44	0.897	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.45	0.897	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.977	0.897	Data Appear Normal			
Lilliefors (Detects Only)	N/A	N/A				
Lilliefors (NDs = DL)	0.393	0.202	Data Not Normal			
Lilliefors (NDs = DL/2)	0.348	0.202	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.119	0.202	Data Appear Normal			
	Gamma GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	N/A	0.841	0.847	0.425		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Anderson-Darling (Detects Only)	N/A	N/A				
Kolmogorov-Smirnov (Detects Only)	N/A	N/A				
Anderson-Darling (NDs = DL)	2.243	0.764				
Kolmogorov-Smirnov (NDs = DL)	0.319	0.209	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	2.297	0.763				
Kolmogorov-Smirnov (NDs = DL/2)	0.289	0.209	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	N/A	0.737				
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.203				
Lognormal GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	1	0.888	0.864	N/A		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (NDs = DL)	0.811	0.897	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.756	0.897	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.977	0.897	Data Appear Lognormal			
Lilliefors (Detects Only)	N/A	N/A				
Lilliefors (NDs = DL)	0.263	0.202	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.301	0.202	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.119	0.202	Data Appear Lognormal			
Note: Substitution methods such as DL or DL/2 are not recommended.						
Lead (m-58a)						
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	4	14	77.78%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	14	1.0000E-4	0.01	0.00151	5.0000E-4	0.00253
Statistics (Non-Detects Only)	4	5.6000E-4	0.0011	7.5750E-4	6.8500E-4	2.4824E-4
Statistics (All: NDs treated as DL value)	18	1.0000E-4	0.01	0.00134	5.7500E-4	0.00224
Statistics (All: NDs treated as DL/2 value)	18	5.0000E-5	0.005	7.5444E-4	5.0000E-4	0.00111
Statistics (Normal ROS Imputed Data)	18	-4.333E-4	0.0011	2.3466E-4	2.2302E-4	3.7173E-4
Statistics (Gamma ROS Imputed Data)	18	5.6000E-4	0.01	0.00795	0.01	0.00396
Statistics (Lognormal ROS Imputed Data)	18	1.6640E-4	0.0011	4.2460E-4	3.7582E-4	2.2553E-4

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	13.53	3.548	5.6000E-5	-7.223	0.31	-0.0429		
Statistics (NDs = DL)	1.056	0.917	0.00127	-7.158	0.934	-0.131		
Statistics (NDs = DL/2)	1.123	0.972	6.7210E-4	-7.697	0.97	-0.126		
Statistics (Gamma ROS Estimates)	1.567	1.343	0.00507	-5.187	1.127	-0.217		
Statistics (Lognormal ROS Estimates)	--	--	--	-7.872	0.462	-0.0586		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.94	0.647	0.694	0.983				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.878	0.748	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.45	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.511	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.974	0.897	Data Appear Normal					
Lilliefors (Detects Only)	0.25	0.375	Data Appear Normal					
Lilliefors (NDs = DL)	0.376	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.281	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.167	0.202	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.975	0.848	0.872	0.537				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.366	0.657						
Kolmogorov-Smirnov (Detects Only)	0.285	0.395	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.921	0.765						
Kolmogorov-Smirnov (NDs = DL)	0.279	0.209	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.164	0.764						
Kolmogorov-Smirnov (NDs = DL/2)	0.202	0.209	Detected Data appear Approximate Gamma Distribution					
Anderson-Darling (Gamma ROS Estimates)	4.515	0.756						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.491	0.207	Data Not Gamma Distributed					
	Lognormal GOF Test Results							

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	0.956	0.907	0.942	0.983		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.905	0.748	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.854	0.897	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.912	0.897	Data Appear Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.974	0.897	Data Appear Lognormal			
Lilliefors (Detects Only)	0.254	0.375	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.262	0.202	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.213	0.202	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.167	0.202	Data Appear Lognormal			

Note: Substitution methods such as DL or DL/2 are not recommended.

Lithium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	4	19	2	17	89.47%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	17	0.2	1	0.247	0.2	0.194
Statistics (Non-Detects Only)	2	0.097	0.1	0.0985	0.0985	0.00212
Statistics (All: NDs treated as DL value)	19	0.097	1	0.231	0.2	0.189
Statistics (All: NDs treated as DL/2 value)	19	0.097	0.5	0.121	0.1	0.0918
Statistics (Normal ROS Imputed Data)	19	0.0931	0.104	0.0985	0.0985	0.00282
Statistics (Gamma ROS Imputed Data)	19	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Imputed Data)	19	0.0932	0.104	0.0985	0.0985	0.00282
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (NDs = DL)	3.841	3.27	0.0602	-1.599	0.447	-0.279
Statistics (NDs = DL/2)	4.849	4.118	0.0249	-2.219	0.37	-0.167
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A
Statistics (Lognormal ROS Estimates)	--	--	--	-2.318	0.0287	-0.0124
	Normal GOF Test Results					
	No NDs	NDs = DL	NDs = DL/2	Normal ROS		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Correlation Coefficient R	1	0.552	0.468	0.999		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (NDs = DL)	0.339	0.901	Data Not Normal			
Shapiro-Wilk (NDs = DL/2)	0.247	0.901	Data Not Normal			
Shapiro-Wilk (Normal ROS Estimates)	0.997	0.901	Data Appear Normal			
Lilliefors (Detects Only)	N/A	N/A				
Lilliefors (NDs = DL)	0.513	0.197	Data Not Normal			
Lilliefors (NDs = DL/2)	0.537	0.197	Data Not Normal			
Lilliefors (Normal ROS Estimates)	0.0476	0.197	Data Appear Normal			
Gamma GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS		
Correlation Coefficient R	N/A	0.654	0.583	0.999		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Anderson-Darling (Detects Only)	N/A	N/A				
Kolmogorov-Smirnov (Detects Only)	N/A	N/A				
Anderson-Darling (NDs = DL)	4.845	0.746				
Kolmogorov-Smirnov (NDs = DL)	0.49	0.199	Data Not Gamma Distributed			
Anderson-Darling (NDs = DL/2)	6.813	0.743				
Kolmogorov-Smirnov (NDs = DL/2)	0.546	0.199	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	N/A	0.738				
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.198				
Lognormal GOF Test Results						
	No NDs	NDs = DL	NDs = DL/2	Log ROS		
Correlation Coefficient R	1	0.68	0.473	N/A		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (NDs = DL)	0.504	0.901	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.253	0.901	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.997	0.901	Data Appear Lognormal			
Lilliefors (Detects Only)	N/A	N/A				
Lilliefors (NDs = DL)	0.456	0.197	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.536	0.197	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.0476	0.197	Data Appear Lognormal			

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Note: Substitution methods such as DL or DL/2 are not recommended.								
Lithium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	5	19	2	17	89.47%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	17	0.2	1	0.247	0.2	0.194		
Statistics (Non-Detects Only)	2	0.092	0.096	0.094	0.094	0.00283		
Statistics (All: NDs treated as DL value)	19	0.092	1	0.231	0.2	0.189		
Statistics (All: NDs treated as DL/2 value)	19	0.092	0.5	0.12	0.1	0.0919		
Statistics (Normal ROS Imputed Data)	19	0.0867	0.101	0.094	0.094	0.00376		
Statistics (Gamma ROS Imputed Data)	19	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Imputed Data)	19	0.087	0.102	0.0941	0.094	0.00377		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	3.764	3.205	0.0614	-1.604	0.455	-0.284		
Statistics (NDs = DL/2)	4.805	4.081	0.0251	-2.224	0.371	-0.167		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-2.365	0.0401	-0.0169		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.555	0.476	0.999				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.343	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.256	0.901	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.997	0.901	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.512	0.197	Data Not Normal					
Lilliefors (NDs = DL/2)	0.535	0.197	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0476	0.197	Data Appear Normal					
	Gamma GOF Test Results							

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.657	0.59	0.999				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	4.792	0.746						
Kolmogorov-Smirnov (NDs = DL)	0.486	0.199	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	6.569	0.743						
Kolmogorov-Smirnov (NDs = DL/2)	0.542	0.199	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.738						
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.198						
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	1	0.687	0.495	N/A				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.514	0.901	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.276	0.901	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.997	0.901	Data Appear Lognormal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.452	0.197	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.531	0.197	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.0476	0.197	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Lithium (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	4	19	2	17	89.47%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	17	0.2	1	0.247	0.2	0.194		
Statistics (Non-Detects Only)	2	0.07	0.071	0.0705	0.0705	7.0711E-4		
Statistics (All: NDs treated as DL value)	19	0.07	1	0.228	0.2	0.191		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Statistics (All: NDs treated as DL/2 value)	19	0.07	0.5	0.118	0.1	0.093		
Statistics (Normal ROS Imputed Data)	19	0.0687	0.0723	0.0705	0.0705	9.4120E-4		
Statistics (Gamma ROS Imputed Data)	19	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Imputed Data)	19	0.0687	0.0723	0.0705	0.0705	9.4129E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	3.319	2.83	0.0688	-1.634	0.514	-0.314		
Statistics (NDs = DL/2)	4.428	3.764	0.0266	-2.255	0.394	-0.175		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-2.652	0.0134	-0.00503		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.572	0.518	0.999				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.363	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.3	0.901	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.997	0.901	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.507	0.197	Data Not Normal					
Lilliefors (NDs = DL/2)	0.524	0.197	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.0476	0.197	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.673	0.624	0.999				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	4.582	0.747						
Kolmogorov-Smirnov (NDs = DL)	0.468	0.2	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	5.502	0.744						
Kolmogorov-Smirnov (NDs = DL/2)	0.518	0.199	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	N/A	0.738						

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.198				

Lognormal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	1	0.712	0.601	N/A

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (NDs = DL)	0.548	0.901	Data Not Lognormal
Shapiro-Wilk (NDs = DL/2)	0.4	0.901	Data Not Lognormal
Shapiro-Wilk (Lognormal ROS Estimates)	0.997	0.901	Data Appear Lognormal
Lilliefors (Detects Only)	N/A	N/A	
Lilliefors (NDs = DL)	0.428	0.197	Data Not Lognormal
Lilliefors (NDs = DL/2)	0.496	0.197	Data Not Lognormal
Lilliefors (Lognormal ROS Estimates)	0.0476	0.197	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Mercury (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-56a) was not processed!

Mercury (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	6	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		

The data set for variable Mercury (m-57a) was not processed!

Mercury (m-58a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	0	18	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Mercury (m-58a) was not processed!

Molybdenum (m-56a)

Raw Statistics

Number of Valid Observations	22
Number of Missing Observations	1
Number of Distinct Observations	19
Minimum	0.0057
Maximum	0.029
Mean of Raw Data	0.0122
Standard Deviation of Raw Data	0.0056
Khat	6.505
Theta hat	0.00188
Kstar	5.649
Theta star	0.00216
Mean of Log Transformed Data	-4.484
Standard Deviation of Log Transformed Data	0.387

Normal GOF Test Results

Correlation Coefficient R	0.891
Shapiro Wilk Test Statistic	0.804

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Shapiro Wilk Critical (0.05) Value	0.911							
Approximate Shapiro Wilk P Value	3.4435E-4							
Lilliefors Test Statistic	0.222							
Lilliefors Critical (0.05) Value	0.184							
Data not Normal at (0.05) Significance Level								
Gamma GOF Test Results								
Correlation Coefficient R	0.949							
A-D Test Statistic	0.922							
A-D Critical (0.05) Value	0.746							
K-S Test Statistic	0.188							
K-S Critical(0.05) Value	0.186							
Data not Gamma Distributed at (0.05) Significance Level								
Lognormal GOF Test Results								
Correlation Coefficient R	0.964							
Shapiro Wilk Test Statistic	0.935							
Shapiro Wilk Critical (0.05) Value	0.911							
Approximate Shapiro Wilk P Value	0.154							
Lilliefors Test Statistic	0.163							
Lilliefors Critical (0.05) Value	0.184							
Data appear Lognormal at (0.05) Significance Level								
Molybdenum (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	2	22	21	1	4.55%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	1	0.0025	0.0025	0.0025	0.0025	N/A		
Statistics (Non-Detects Only)	21	0.0011	0.022	0.00637	0.0046	0.00514		
Statistics (All: NDs treated as DL value)	22	0.0011	0.022	0.00619	0.0045	0.00509		
Statistics (All: NDs treated as DL/2 value)	22	0.0011	0.022	0.00613	0.0045	0.00514		
Statistics (Normal ROS Imputed Data)	22	-0.00257	0.022	0.00596	0.0045	0.00537		
Statistics (Gamma ROS Imputed Data)	22	0.0011	0.022	0.00653	0.00465	0.00508		
Statistics (Lognormal ROS Imputed Data)	22	0.0011	0.022	0.00614	0.0045	0.00513		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	2.334	2.033	0.00273	-5.286	0.671	-0.127
Statistics (NDs = DL)	2.296	2.013	0.0027	-5.318	0.672	-0.126
Statistics (NDs = DL/2)	2.108	1.851	0.00291	-5.349	0.719	-0.134
Statistics (Gamma ROS Estimates)	2.387	2.091	0.00274	-5.255	0.671	-0.128
Statistics (Lognormal ROS Estimates)	--	--	--	-5.347	0.714	-0.134

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.852	0.849	0.858	0.887

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (Detects Only)	0.736	0.908	Data Not Normal
Shapiro-Wilk (NDs = DL)	0.731	0.911	Data Not Normal
Shapiro-Wilk (NDs = DL/2)	0.745	0.911	Data Not Normal
Shapiro-Wilk (Normal ROS Estimates)	0.804	0.911	Data Not Normal
Lilliefors (Detects Only)	0.239	0.188	Data Not Normal
Lilliefors (NDs = DL)	0.244	0.184	Data Not Normal
Lilliefors (NDs = DL/2)	0.239	0.184	Data Not Normal
Lilliefors (Normal ROS Estimates)	0.222	0.184	Data Not Normal

Gamma GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Gamma ROS
Correlation Coefficient R	0.95	0.95	0.956	0.963

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Anderson-Darling (Detects Only)	0.857	0.752	
Kolmogorov-Smirnov (Detects Only)	0.193	0.191	Data Not Gamma Distributed
Anderson-Darling (NDs = DL)	0.868	0.754	
Kolmogorov-Smirnov (NDs = DL)	0.194	0.188	Data Not Gamma Distributed
Anderson-Darling (NDs = DL/2)	0.713	0.755	
Kolmogorov-Smirnov (NDs = DL/2)	0.179	0.188	Data Appear Gamma Distributed
Anderson-Darling (Gamma ROS Estimates)	0.691	0.754	
Kolmogorov-Smirnov (Gamma ROS Est.)	0.182	0.187	Data Appear Gamma Distributed

Lognormal GOF Test Results

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.97	0.972	0.977	0.978				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.951	0.908	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.955	0.911	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.958	0.911	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.961	0.911	Data Appear Lognormal					
Lilliefors (Detects Only)	0.151	0.188	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.149	0.184	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.131	0.184	Data Appear Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.132	0.184	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Molybdenum (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	1	22	19	3	13.64%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	3	0.0018	0.01	0.00477	0.0025	0.00455		
Statistics (Non-Detects Only)	19	0.0014	0.02	0.00295	0.0018	0.00419		
Statistics (All: NDs treated as DL value)	22	0.0014	0.02	0.0032	0.0018	0.00417		
Statistics (All: NDs treated as DL/2 value)	22	9.0000E-4	0.02	0.00288	0.0018	0.00395		
Statistics (Normal ROS Imputed Data)	22	3.5508E-4	0.02	0.00279	0.0018	0.00392		
Statistics (Gamma ROS Imputed Data)	22	0.0014	0.02	0.00391	0.0018	0.0046		
Statistics (Lognormal ROS Imputed Data)	22	0.00136	0.02	0.00279	0.0018	0.0039		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	1.795	1.547	0.00164	-6.129	0.595	-0.097		
Statistics (NDs = DL)	1.724	1.519	0.00186	-6.062	0.642	-0.106		
Statistics (NDs = DL/2)	1.789	1.576	0.00161	-6.156	0.622	-0.101		
Statistics (Gamma ROS Estimates)	1.468	1.298	0.00267	-5.921	0.768	-0.13		
Statistics (Lognormal ROS Estimates)	--	--	--	-6.159	0.56	-0.091		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Correlation Coefficient R	0.563	0.635	0.6	0.576				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.347	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.426	0.911	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.388	0.911	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.362	0.911	Data Not Normal					
Lilliefors (Detects Only)	0.438	0.197	Data Not Normal					
Lilliefors (NDs = DL)	0.43	0.184	Data Not Normal					
Lilliefors (NDs = DL/2)	0.402	0.184	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.429	0.184	Data Not Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.739	0.816	0.769	0.908				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	4.083	0.754						
Kolmogorov-Smirnov (Detects Only)	0.39	0.201	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	4.209	0.758						
Kolmogorov-Smirnov (NDs = DL)	0.384	0.188	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	3.44	0.757						
Kolmogorov-Smirnov (NDs = DL/2)	0.353	0.188	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	3.5	0.759						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.364	0.189	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.732	0.782	0.831	0.733				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.563	0.901	Data Not Lognormal					
Shapiro-Wilk (NDs = DL)	0.626	0.911	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.716	0.911	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.563	0.911	Data Not Lognormal					
Lilliefors (Detects Only)	0.336	0.197	Data Not Lognormal					
Lilliefors (NDs = DL)	0.32	0.184	Data Not Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (NDs = DL/2)	0.294	0.184	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.336	0.184	Data Not Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Total Radium (m-56a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	4	19	12	7	36.84%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	7	0.4	1.2	0.786	0.8	0.241		
Statistics (Non-Detects Only)	12	0.5	1.9	1.158	1.3	0.558		
Statistics (All: NDs treated as DL value)	19	0.4	1.9	1.021	0.8	0.494		
Statistics (All: NDs treated as DL/2 value)	19	0.2	1.9	0.876	0.6	0.582		
Statistics (Normal ROS Imputed Data)	19	-0.225	1.9	0.89	0.6	0.598		
Statistics (Gamma ROS Imputed Data)	19	0.124	1.9	0.919	0.6	0.556		
Statistics (Lognormal ROS Imputed Data)	19	0.265	1.9	0.924	0.6	0.545		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	4.086	3.12	0.283	0.0196	0.549	27.92		
Statistics (NDs = DL)	4.56	3.875	0.224	-0.0928	0.494	-5.321		
Statistics (NDs = DL/2)	2.467	2.113	0.355	-0.348	0.682	-1.96		
Statistics (Gamma ROS Estimates)	2.702	2.311	0.34	-0.281	0.686	-2.444		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.242	0.585	-2.423		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.936	0.956	0.92	0.957				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.847	0.859	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.896	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.83	0.901	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.909	0.901	Data Appear Normal					
Lilliefors (Detects Only)	0.258	0.243	Data Not Normal					
Lilliefors (NDs = DL)	0.199	0.197	Data Not Normal					
Lilliefors (NDs = DL/2)	0.314	0.197	Data Not Normal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (Normal ROS Estimates)	0.231	0.197	Data Not Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.914	0.967	0.94	0.947				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.972	0.735						
Kolmogorov-Smirnov (Detects Only)	0.264	0.246	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL)	0.602	0.744						
Kolmogorov-Smirnov (NDs = DL)	0.16	0.199	Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.055	0.75						
Kolmogorov-Smirnov (NDs = DL/2)	0.265	0.2	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.842	0.749						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.202	0.2	Data Not Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.92	0.974	0.958	0.95				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.819	0.859	Data Not Lognormal					
Shapiro-Wilk (NDs = DL)	0.933	0.901	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.906	0.901	Data Appear Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.893	0.901	Data Not Lognormal					
Lilliefors (Detects Only)	0.25	0.243	Data Not Lognormal					
Lilliefors (NDs = DL)	0.132	0.197	Data Appear Lognormal					
Lilliefors (NDs = DL/2)	0.226	0.197	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.23	0.197	Data Not Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Total Radium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	5	19	5	14	73.68%		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	14	0.4	0.9	0.679	0.7	0.119		
Statistics (Non-Detects Only)	5	0.5	1.5	0.88	0.7	0.415		
Statistics (All: NDs treated as DL value)	19	0.4	1.5	0.732	0.7	0.238		
Statistics (All: NDs treated as DL/2 value)	19	0.2	1.5	0.482	0.35	0.317		
Statistics (Normal ROS Imputed Data)	19	-0.378	1.5	0.311	0.255	0.475		
Statistics (Gamma ROS Imputed Data)	19	0.01	1.5	0.387	0.283	0.395		
Statistics (Lognormal ROS Imputed Data)	19	0.193	1.5	0.493	0.397	0.324		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	6.104	2.575	0.144	-0.212	0.452	-2.133		
Statistics (NDs = DL)	12.46	10.53	0.0587	-0.353	0.282	-0.798		
Statistics (NDs = DL/2)	3.911	3.328	0.123	-0.864	0.482	-0.558		
Statistics (Gamma ROS Estimates)	0.754	0.67	0.513	-1.742	1.627	-0.934		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.86	0.537	-0.625		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.951	0.872	0.807	0.974				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.896	0.762	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.786	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.669	0.901	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.952	0.901	Data Appear Normal					
Lilliefors (Detects Only)	0.268	0.343	Data Appear Normal					
Lilliefors (NDs = DL)	0.29	0.197	Data Not Normal					
Lilliefors (NDs = DL/2)	0.286	0.197	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.109	0.197	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.985	0.914	0.905	0.989				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.317	0.68						
Kolmogorov-Smirnov (Detects Only)	0.258	0.358	Detected Data Appear Gamma Distributed					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Anderson-Darling (NDs = DL)	1.069	0.741						
Kolmogorov-Smirnov (NDs = DL)	0.261	0.198	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.665	0.745						
Kolmogorov-Smirnov (NDs = DL/2)	0.257	0.199	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.431	0.779						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.13	0.206	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.976	0.937	0.915	0.978				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.94	0.762	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.901	0.901	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.85	0.901	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.956	0.901	Data Appear Lognormal					
Lilliefors (Detects Only)	0.226	0.343	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.242	0.197	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.229	0.197	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.115	0.197	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Total Radium (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	4	19	9	10	52.63%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	10	0.6	0.9	0.7	0.7	0.0943		
Statistics (Non-Detects Only)	9	0.5	2.6	1.3	0.9	0.745		
Statistics (All: NDs treated as DL value)	19	0.5	2.6	0.984	0.7	0.588		
Statistics (All: NDs treated as DL/2 value)	19	0.3	2.6	0.8	0.45	0.697		
Statistics (Normal ROS Imputed Data)	19	-0.741	2.6	0.609	0.5	0.882		
Statistics (Gamma ROS Imputed Data)	19	0.01	2.6	0.707	0.475	0.771		
Statistics (Lognormal ROS Imputed Data)	19	0.219	2.6	0.832	0.541	0.68		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Statistics (Non-Detects Only)	3.683	2.529	0.353	0.12	0.562	4.666		
Statistics (NDs = DL)	4.368	3.713	0.225	-0.135	0.459	-3.408		
Statistics (NDs = DL/2)	1.959	1.685	0.408	-0.5	0.717	-1.435		
Statistics (Gamma ROS Estimates)	0.673	0.602	1.051	-1.249	1.769	-1.416		
Statistics (Lognormal ROS Estimates)	--	--	--	-0.434	0.695	-1.6		
Normal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.941	0.825	0.857	0.97				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.873	0.829	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.688	0.901	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.734	0.901	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.941	0.901	Data Appear Normal					
Lilliefors (Detects Only)	0.26	0.274	Data Appear Normal					
Lilliefors (NDs = DL)	0.346	0.197	Data Not Normal					
Lilliefors (NDs = DL/2)	0.246	0.197	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.16	0.197	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.972	0.91	0.96	0.979				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.426	0.726						
Kolmogorov-Smirnov (Detects Only)	0.242	0.281	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	1.911	0.744						
Kolmogorov-Smirnov (NDs = DL)	0.299	0.199	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.366	0.752						
Kolmogorov-Smirnov (NDs = DL/2)	0.22	0.201	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	0.262	0.786						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.11	0.207	Data Appear Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Correlation Coefficient R	0.975	0.903	0.932	0.977		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)			
Shapiro-Wilk (Detects Only)	0.938	0.829	Data Appear Lognormal			
Shapiro-Wilk (NDs = DL)	0.816	0.901	Data Not Lognormal			
Shapiro-Wilk (NDs = DL/2)	0.853	0.901	Data Not Lognormal			
Shapiro-Wilk (Lognormal ROS Estimates)	0.948	0.901	Data Appear Lognormal			
Lilliefors (Detects Only)	0.212	0.274	Data Appear Lognormal			
Lilliefors (NDs = DL)	0.264	0.197	Data Not Lognormal			
Lilliefors (NDs = DL/2)	0.2	0.197	Data Not Lognormal			
Lilliefors (Lognormal ROS Estimates)	0.128	0.197	Data Appear Lognormal			

Note: Substitution methods such as DL or DL/2 are not recommended.

Selenium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	5	18	5	13	72.22%
	Number	Minimum	Maximum	Mean	Median	SD
Statistics (Non-Detects Only)	13	5.0000E-4	0.01	0.00158	5.0000E-4	0.00261
Statistics (Non-Detects Only)	5	3.3000E-4	0.0016	7.3600E-4	5.7000E-4	4.9581E-4
Statistics (All: NDs treated as DL value)	18	3.3000E-4	0.01	0.00135	5.6500E-4	0.00224
Statistics (All: NDs treated as DL/2 value)	18	2.5000E-4	0.005	7.7667E-4	4.1500E-4	0.00112
Statistics (Normal ROS Imputed Data)	18	-3.472E-4	0.0016	3.4062E-4	3.2635E-4	4.0206E-4
Statistics (Gamma ROS Imputed Data)	18	3.3000E-4	0.01	0.00743	0.01	0.00428
Statistics (Lognormal ROS Imputed Data)	18	1.5669E-4	0.0016	4.4006E-4	3.7461E-4	3.1471E-4
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV
Statistics (Non-Detects Only)	3.602	1.574	2.0435E-4	-7.359	0.572	-0.0778
Statistics (NDs = DL)	1.127	0.976	0.0012	-7.114	0.834	-0.117
Statistics (NDs = DL/2)	1.242	1.072	6.2552E-4	-7.614	0.835	-0.11
Statistics (Gamma ROS Estimates)	1.209	1.044	0.00614	-5.37	1.299	-0.242
Statistics (Lognormal ROS Estimates)	--	--	--	-7.871	0.501	-0.0636

Normal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Normal ROS
Correlation Coefficient R	0.851	0.642	0.695	0.907

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.75	0.762	Data Not Normal					
Shapiro-Wilk (NDs = DL)	0.441	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.509	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.852	0.897	Data Not Normal					
Lilliefors (Detects Only)	0.392	0.343	Data Not Normal					
Lilliefors (NDs = DL)	0.34	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.333	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.188	0.202	Data Appear Normal					
Gamma GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	0.931	0.846	0.882	0.566				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	0.575	0.682						
Kolmogorov-Smirnov (Detects Only)	0.355	0.359	Detected Data Appear Gamma Distributed					
Anderson-Darling (NDs = DL)	2.464	0.764						
Kolmogorov-Smirnov (NDs = DL)	0.321	0.209	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	1.739	0.762						
Kolmogorov-Smirnov (NDs = DL/2)	0.252	0.208	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	3.842	0.762						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.462	0.209	Data Not Gamma Distributed					
Lognormal GOF Test Results								
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.923	0.864	0.901	0.946				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.88	0.762	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.762	0.897	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.812	0.897	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.918	0.897	Data Appear Lognormal					
Lilliefors (Detects Only)	0.318	0.343	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.295	0.202	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.208	0.202	Data Not Lognormal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Lilliefors (Lognormal ROS Estimates)	0.164	0.202	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Selenium (m-57a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	24	6	18	3	15	83.33%		
	Number	Minimum	Maximum	Mean	Median	SD		
Statistics (Non-Detects Only)	15	5.0000E-4	0.01	0.00147	5.0000E-4	0.00244		
Statistics (Non-Detects Only)	3	2.9000E-4	0.0014	7.9333E-4	6.9000E-4	5.6217E-4		
Statistics (All: NDs treated as DL value)	18	2.9000E-4	0.01	0.00136	5.5000E-4	0.00223		
Statistics (All: NDs treated as DL/2 value)	18	2.5000E-4	0.005	7.4611E-4	2.9500E-4	0.00112		
Statistics (Normal ROS Imputed Data)	18	-3.435E-4	0.0014	3.2814E-4	3.0207E-4	3.7834E-4		
Statistics (Gamma ROS Imputed Data)	18	2.9000E-4	0.01	0.00847	0.01	0.00354		
Statistics (Lognormal ROS Imputed Data)	18	1.1972E-4	0.0014	3.8650E-4	3.1144E-4	2.8807E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	1.143	0.99	0.00119	-7.098	0.835	-0.118		
Statistics (NDs = DL/2)	1.193	1.031	6.2556E-4	-7.675	0.843	-0.11		
Statistics (Gamma ROS Estimates)	1.886	1.609	0.00449	-5.06	1.08	-0.213		
Statistics (Lognormal ROS Estimates)	--	--	--	-8.027	0.556	-0.0693		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	0.987	0.645	0.68	0.947				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.975	0.767	Data Appear Normal					
Shapiro-Wilk (NDs = DL)	0.446	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.489	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.918	0.897	Data Appear Normal					
Lilliefors (Detects Only)	0.24	0.425	Data Appear Normal					
Lilliefors (NDs = DL)	0.342	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.329	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.181	0.202	Data Appear Normal					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.845	0.873	0.491				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	2.174	0.764						
Kolmogorov-Smirnov (NDs = DL)	0.274	0.209	Data Not Gamma Distributed					
Anderson-Darling (NDs = DL/2)	2.051	0.763						
Kolmogorov-Smirnov (NDs = DL/2)	0.261	0.209	Data Not Gamma Distributed					
Anderson-Darling (Gamma ROS Estimates)	5.016	0.753						
Kolmogorov-Smirnov (Gamma ROS Est.)	0.517	0.207	Data Not Gamma Distributed					
	Lognormal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Log ROS				
Correlation Coefficient R	0.998	0.887	0.877	0.965				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (Detects Only)	0.997	0.767	Data Appear Lognormal					
Shapiro-Wilk (NDs = DL)	0.803	0.897	Data Not Lognormal					
Shapiro-Wilk (NDs = DL/2)	0.771	0.897	Data Not Lognormal					
Shapiro-Wilk (Lognormal ROS Estimates)	0.947	0.897	Data Appear Lognormal					
Lilliefors (Detects Only)	0.194	0.425	Data Appear Lognormal					
Lilliefors (NDs = DL)	0.227	0.202	Data Not Lognormal					
Lilliefors (NDs = DL/2)	0.253	0.202	Data Not Lognormal					
Lilliefors (Lognormal ROS Estimates)	0.182	0.202	Data Appear Lognormal					
Note: Substitution methods such as DL or DL/2 are not recommended.								
Selenium (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	5	18	2	16	88.89%		
	Number	Minimum	Maximum	Mean	Median	SD		

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Statistics (Non-Detects Only)	16	5.0000E-4	0.01	0.00141	5.0000E-4	0.00237		
Statistics (Non-Detects Only)	2	2.4000E-4	9.9000E-4	6.1500E-4	6.1500E-4	5.3033E-4		
Statistics (All: NDs treated as DL value)	18	2.4000E-4	0.01	0.00132	5.0000E-4	0.00224		
Statistics (All: NDs treated as DL/2 value)	18	2.4000E-4	0.005	6.9611E-4	2.5000E-4	0.00112		
Statistics (Normal ROS Imputed Data)	18	-2.607E-4	9.9000E-4	2.8936E-4	2.8274E-4	2.8717E-4		
Statistics (Gamma ROS Imputed Data)	18	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Imputed Data)	18	9.3186E-5	9.9000E-4	3.0650E-4	2.6018E-4	2.0363E-4		
	K hat	K Star	Theta hat	Log Mean	Log Stdv	Log CV		
Statistics (Non-Detects Only)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (NDs = DL)	1.102	0.955	0.0012	-7.145	0.848	-0.119		
Statistics (NDs = DL/2)	1.156	1	6.0228E-4	-7.761	0.831	-0.107		
Statistics (Gamma ROS Estimates)	N/A	N/A	N/A	N/A	N/A	N/A		
Statistics (Lognormal ROS Estimates)	--	--	--	-8.242	0.543	-0.0658		
	Normal GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Normal ROS				
Correlation Coefficient R	1	0.636	0.648	0.972				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Shapiro-Wilk (NDs = DL)	0.434	0.897	Data Not Normal					
Shapiro-Wilk (NDs = DL/2)	0.447	0.897	Data Not Normal					
Shapiro-Wilk (Normal ROS Estimates)	0.959	0.897	Data Appear Normal					
Lilliefors (Detects Only)	N/A	N/A						
Lilliefors (NDs = DL)	0.391	0.202	Data Not Normal					
Lilliefors (NDs = DL/2)	0.347	0.202	Data Not Normal					
Lilliefors (Normal ROS Estimates)	0.176	0.202	Data Appear Normal					
	Gamma GOF Test Results							
	No NDs	NDs = DL	NDs = DL/2	Gamma ROS				
Correlation Coefficient R	N/A	0.84	0.85	0.43				
	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)					
Anderson-Darling (Detects Only)	N/A	N/A						
Kolmogorov-Smirnov (Detects Only)	N/A	N/A						
Anderson-Darling (NDs = DL)	2.421	0.764						
Kolmogorov-Smirnov (NDs = DL)	0.315	0.209	Data Not Gamma Distributed					

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%
Anderson-Darling (NDs = DL/2)	2.557	0.763				
Kolmogorov-Smirnov (NDs = DL/2)	0.29	0.209	Data Not Gamma Distributed			
Anderson-Darling (Gamma ROS Estimates)	N/A	0.737				
Kolmogorov-Smirnov (Gamma ROS Est.)	N/A	0.203				

Lognormal GOF Test Results

	No NDs	NDs = DL	NDs = DL/2	Log ROS
Correlation Coefficient R	1	0.874	0.842	N/A

	Test value	Crit. (0.05)	Conclusion with Alpha(0.05)
Shapiro-Wilk (NDs = DL)	0.786	0.897	Data Not Lognormal
Shapiro-Wilk (NDs = DL/2)	0.716	0.897	Data Not Lognormal
Shapiro-Wilk (Lognormal ROS Estimates)	0.959	0.897	Data Appear Lognormal
Lilliefors (Detects Only)	N/A	N/A	
Lilliefors (NDs = DL)	0.26	0.202	Data Not Lognormal
Lilliefors (NDs = DL/2)	0.295	0.202	Data Not Lognormal
Lilliefors (Lognormal ROS Estimates)	0.176	0.202	Data Appear Lognormal

Note: Substitution methods such as DL or DL/2 are not recommended.

Thallium (m-56a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	23	1	22	1	21	95.45%

Warning: Only one distinct data value was detected! ProUCL (or any other software) should not be used on such a data set!
It is suggested to use alternative site specific values determined by the Project Team to estimate environmental parameters (e.g., EPC, BTV).

The data set for variable Thallium (m-56a) was not processed!

Thallium (m-57a)

	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs
Raw Statistics	24	2	22	0	22	100.00%

Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!

Appendix B
Goodness of Fit Statistics

Raw Statistics	23	5	18	1	17	94.44%		
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Thallium (m-57a) was not processed!								
Thallium (m-58a)								
	Num Obs	Num Miss	Num Valid	Detects	NDs	% NDs		
Raw Statistics	23	1	22	0	22	100.00%		
Warning: All observations are Non-Detects (NDs), therefore all statistics and estimates should also be NDs!								
Specifically, sample mean, UCLs, UPLs, and other statistics are also NDs lying below the largest detection limit!								
The Project Team may decide to use alternative site specific values to estimate environmental parameters (e.g., EPC, BTV).								
The data set for variable Thallium (m-58a) was not processed!								

Appendix B
Outlier Statistics

	Outlier Tests for Selected Uncensored Variables
User Selected Options	
Date/Time of Computation	ProUCL 5.19/13/2021 8:22:05 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF

Dixon's Outlier Test for Arsenic (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.161

For 10% significance level, 0.01 is not an outlier.
For 5% significance level, 0.01 is not an outlier.
For 1% significance level, 0.01 is not an outlier.

2. Observation Value 0.0006 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.010

For 10% significance level, 0.0006 is not an outlier.
For 5% significance level, 0.0006 is not an outlier.
For 1% significance level, 0.0006 is not an outlier.

Dixon's Outlier Test for Arsenic (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.021 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.43
Test Statistic: 0.754

For 10% significance level, 0.021 is an outlier.
For 5% significance level, 0.021 is an outlier.
For 1% significance level, 0.021 is an outlier.

2. Observation Value 0.0017 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.041

For 10% significance level, 0.0017 is not an outlier.
For 5% significance level, 0.0017 is not an outlier.
For 1% significance level, 0.0017 is not an outlier.

Dixon's Outlier Test for Arsenic (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.557

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0025 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.139

For 10% significance level, 0.0025 is not an outlier.
For 5% significance level, 0.0025 is not an outlier.
For 1% significance level, 0.0025 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43

Dixon's Outlier Test for Barium (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.086 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.118

For 10% significance level, 0.086 is not an outlier.
For 5% significance level, 0.086 is not an outlier.
For 1% significance level, 0.086 is not an outlier.

2. Observation Value 0.05 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.062

For 10% significance level, 0.05 is not an outlier.
For 5% significance level, 0.05 is not an outlier.
For 1% significance level, 0.05 is not an outlier.

Dixon's Outlier Test for Barium (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.072 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.548

For 10% significance level, 0.072 is an outlier.
For 5% significance level, 0.072 is an outlier.
For 1% significance level, 0.072 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
2. Observation Value 0.038 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.176
For 10% significance level, 0.038 is not an outlier.
For 5% significance level, 0.038 is not an outlier.
For 1% significance level, 0.038 is not an outlier.
Dixon's Outlier Test for Barium (m-58a)
Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514
1. Observation Value 0.11 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.213
For 10% significance level, 0.11 is not an outlier.
For 5% significance level, 0.11 is not an outlier.
For 1% significance level, 0.11 is not an outlier.
2. Observation Value 0.043 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.111
For 10% significance level, 0.043 is not an outlier.
For 5% significance level, 0.043 is not an outlier.
For 1% significance level, 0.043 is not an outlier.
Dixon's Outlier Test for Beryllium (m-56a)
Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

Appendix B
Outlier Statistics

5% critical value: 0.43

1. Observation Value 0.001 is a Potential Outlier (Upper Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.
For 1% significance level, 0.001 is an outlier.

2. Observation Value 0.001 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.
For 1% significance level, 0.001 is an outlier.

Dixon's Outlier Test for Beryllium (m-57a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.001 is a Potential Outlier (Upper Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.
For 1% significance level, 0.001 is an outlier.

2. Observation Value 0.001 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 1% significance level, 0.001 is an outlier.

Dixon's Outlier Test for Beryllium (m-58a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.001 is a Potential Outlier (Upper Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.
For 1% significance level, 0.001 is an outlier.

2. Observation Value 0.001 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.001 is an outlier.
For 5% significance level, 0.001 is an outlier.
For 1% significance level, 0.001 is an outlier.

Dixon's Outlier Test for Cadmium (m-56a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.002 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 5% significance level, 0.002 is an outlier.
For 1% significance level, 0.002 is an outlier.
2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.000
For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.
Dixon's Outlier Test for Cadmium (m-57a)
Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561
1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.842
For 10% significance level, 0.002 is an outlier.
For 5% significance level, 0.002 is an outlier.
For 1% significance level, 0.002 is an outlier.
2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.000
For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.
Dixon's Outlier Test for Cadmium (m-58a)
Number of Observations = 18

Appendix B
Outlier Statistics

5% critical value: 0.43							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.842							
For 10% significance level, 0.002 is an outlier.							
For 5% significance level, 0.002 is an outlier.							
For 1% significance level, 0.002 is an outlier.							
2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.000							
For 10% significance level, 0.0001 is not an outlier.							
For 5% significance level, 0.0001 is not an outlier.							
For 1% significance level, 0.0001 is not an outlier.							
Dixon's Outlier Test for Chromium (m-56a)							
Number of Observations = 22							
10% critical value: 0.382							
5% critical value: 0.43							
1% critical value: 0.514							
1. Observation Value 0.076 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.702							
For 10% significance level, 0.076 is an outlier.							
For 5% significance level, 0.076 is an outlier.							
For 1% significance level, 0.076 is an outlier.							
2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.000							

Appendix B
Outlier Statistics

5% critical value: 0.43

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Chromium (m-57a)

Number of Observations = 23
10% critical value: 0.374
5% critical value: 0.421
1% critical value: 0.505

1. Observation Value 0.16 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.741

For 10% significance level, 0.16 is an outlier.
For 5% significance level, 0.16 is an outlier.
For 1% significance level, 0.16 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.006

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Chromium (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.43
Test Statistic: 0.632

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Cobalt (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.0025 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.250

For 10% significance level, 0.0025 is not an outlier.
For 5% significance level, 0.0025 is not an outlier.
For 1% significance level, 0.0025 is not an outlier.

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43

Dixon's Outlier Test for Cobalt (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.0088 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.033

For 10% significance level, 0.0088 is not an outlier.
For 5% significance level, 0.0088 is not an outlier.
For 1% significance level, 0.0088 is not an outlier.

2. Observation Value 0.0026 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.033

For 10% significance level, 0.0026 is not an outlier.
For 5% significance level, 0.0026 is not an outlier.
For 1% significance level, 0.0026 is not an outlier.

Dixon's Outlier Test for Cobalt (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43

2. Observation Value 0.0005 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0005 is not an outlier.
For 5% significance level, 0.0005 is not an outlier.
For 1% significance level, 0.0005 is not an outlier.

Dixon's Outlier Test for Fluoride (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 0.8 is not an outlier.
For 5% significance level, 0.8 is not an outlier.
For 1% significance level, 0.8 is not an outlier.

2. Observation Value 0.39 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.024

For 10% significance level, 0.39 is not an outlier.
For 5% significance level, 0.39 is not an outlier.
For 1% significance level, 0.39 is not an outlier.

Dixon's Outlier Test for Fluoride (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

Appendix B
Outlier Statistics

5% critical value: 0.43

1. Observation Value 0.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 0.8 is not an outlier.
For 5% significance level, 0.8 is not an outlier.
For 1% significance level, 0.8 is not an outlier.

2. Observation Value 0.35 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.111

For 10% significance level, 0.35 is not an outlier.
For 5% significance level, 0.35 is not an outlier.
For 1% significance level, 0.35 is not an outlier.

Dixon's Outlier Test for Fluoride (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.8 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.000

For 10% significance level, 0.8 is not an outlier.
For 5% significance level, 0.8 is not an outlier.
For 1% significance level, 0.8 is not an outlier.

2. Observation Value 0.32 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.167

For 10% significance level, 0.32 is not an outlier.
For 5% significance level, 0.32 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 1% significance level, 0.32 is not an outlier.

Dixon's Outlier Test for Lead (m-56a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.211

For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.

Dixon's Outlier Test for Lead (m-57a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.00021 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.162

For 10% significance level, 0.00021 is not an outlier.
For 5% significance level, 0.00021 is not an outlier.
For 1% significance level, 0.00021 is not an outlier.

Dixon's Outlier Test for Lead (m-58a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.211

For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.

Dixon's Outlier Test for Lithium (m-56a)

Number of Observations = 19

Appendix B
Outlier Statistics

5% critical value: 0.43
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 1 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 1 is an outlier.
For 5% significance level, 1 is an outlier.
For 1% significance level, 1 is an outlier.

2. Observation Value 0.097 is a Potential Outlier (Lower Tail)?

Test Statistic: 1.000

For 10% significance level, 0.097 is an outlier.
For 5% significance level, 0.097 is an outlier.
For 1% significance level, 0.097 is an outlier.

Dixon's Outlier Test for Lithium (m-57a)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 1 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 1 is an outlier.
For 5% significance level, 1 is an outlier.
For 1% significance level, 1 is an outlier.

2. Observation Value 0.092 is a Potential Outlier (Lower Tail)?

Test Statistic: 1.000

Appendix B
Outlier Statistics

5% critical value: 0.43

For 10% significance level, 0.092 is an outlier.
For 5% significance level, 0.092 is an outlier.
For 1% significance level, 0.092 is an outlier.

Dixon's Outlier Test for Lithium (m-58a)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 1 is a Potential Outlier (Upper Tail)?

Test Statistic: 1.000

For 10% significance level, 1 is an outlier.
For 5% significance level, 1 is an outlier.
For 1% significance level, 1 is an outlier.

2. Observation Value 0.07 is a Potential Outlier (Lower Tail)?

Test Statistic: 1.000

For 10% significance level, 0.07 is an outlier.
For 5% significance level, 0.07 is an outlier.
For 1% significance level, 0.07 is an outlier.

Dixon's Outlier Test for Mercury (m-56a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.0002 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.43
Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

2. Observation Value 0.0002 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

Dixon's Outlier Test for Mercury (m-57a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.0002 is a Potential Outlier (Upper Tail)?

Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

2. Observation Value 0.0002 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43

Dixon's Outlier Test for Mercury (m-58a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.0002 is a Potential Outlier (Upper Tail)?

Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

2. Observation Value 0.0002 is a Potential Outlier (Lower Tail)?

Test Statistic: NaN

For 10% significance level, 0.0002 is an outlier.
For 5% significance level, 0.0002 is an outlier.
For 1% significance level, 0.0002 is an outlier.

Dixon's Outlier Test for Molybdenum (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.029 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.379

For 10% significance level, 0.029 is not an outlier.
For 5% significance level, 0.029 is not an outlier.
For 1% significance level, 0.029 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43

2. Observation Value 0.0057 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.144

For 10% significance level, 0.0057 is not an outlier.
For 5% significance level, 0.0057 is not an outlier.
For 1% significance level, 0.0057 is not an outlier.

Dixon's Outlier Test for Molybdenum (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.022 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.515

For 10% significance level, 0.022 is an outlier.
For 5% significance level, 0.022 is an outlier.
For 1% significance level, 0.022 is an outlier.

2. Observation Value 0.0011 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.138

For 10% significance level, 0.0011 is not an outlier.
For 5% significance level, 0.0011 is not an outlier.
For 1% significance level, 0.0011 is not an outlier.

Dixon's Outlier Test for Molybdenum (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

Appendix B
Outlier Statistics

5% critical value: 0.43
1. Observation Value 0.02 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.832
For 10% significance level, 0.02 is an outlier.
For 5% significance level, 0.02 is an outlier.
For 1% significance level, 0.02 is an outlier.
2. Observation Value 0.0014 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.061
For 10% significance level, 0.0014 is not an outlier.
For 5% significance level, 0.0014 is not an outlier.
For 1% significance level, 0.0014 is not an outlier.
Dixon's Outlier Test for Total Radium (m-56a)
Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547
1. Observation Value 1.9 is a Potential Outlier (Upper Tail)?
Test Statistic: 0.143
For 10% significance level, 1.9 is not an outlier.
For 5% significance level, 1.9 is not an outlier.
For 1% significance level, 1.9 is not an outlier.
2. Observation Value 0.4 is a Potential Outlier (Lower Tail)?
Test Statistic: 0.077
For 10% significance level, 0.4 is not an outlier.
For 5% significance level, 0.4 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 1% significance level, 0.4 is not an outlier.

Dixon's Outlier Test for Total Radium (m-57a)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 1.5 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.667

For 10% significance level, 1.5 is an outlier.
For 5% significance level, 1.5 is an outlier.
For 1% significance level, 1.5 is an outlier.

2. Observation Value 0.4 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.400

For 10% significance level, 0.4 is not an outlier.
For 5% significance level, 0.4 is not an outlier.
For 1% significance level, 0.4 is not an outlier.

Dixon's Outlier Test for Total Radium (m-58a)

Number of Observations = 19
10% critical value: 0.412
5% critical value: 0.462
1% critical value: 0.547

1. Observation Value 2.6 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.350

For 10% significance level, 2.6 is not an outlier.

Appendix B
Outlier Statistics

5% critical value: 0.43
For 5% significance level, 2.6 is not an outlier.
For 1% significance level, 2.6 is not an outlier.

2. Observation Value 0.5 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.071

For 10% significance level, 0.5 is not an outlier.
For 5% significance level, 0.5 is not an outlier.
For 1% significance level, 0.5 is not an outlier.

Dixon's Outlier Test for Selenium (m-56a)

Number of Observations = 18
10% critical value: 0.424
5% critical value: 0.475
1% critical value: 0.561

1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.01 is an outlier.
For 5% significance level, 0.01 is an outlier.
For 1% significance level, 0.01 is an outlier.

2. Observation Value 0.00033 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.102

For 10% significance level, 0.00033 is not an outlier.
For 5% significance level, 0.00033 is not an outlier.
For 1% significance level, 0.00033 is not an outlier.

Dixon's Outlier Test for Selenium (m-57a)

Number of Observations = 18

Appendix B
Outlier Statistics

5% critical value: 0.43							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.842							
For 10% significance level, 0.01 is an outlier.							
For 5% significance level, 0.01 is an outlier.							
For 1% significance level, 0.01 is an outlier.							
2. Observation Value 0.00029 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.123							
For 10% significance level, 0.00029 is not an outlier.							
For 5% significance level, 0.00029 is not an outlier.							
For 1% significance level, 0.00029 is not an outlier.							
Dixon's Outlier Test for Selenium (m-58a)							
Number of Observations = 18							
10% critical value: 0.424							
5% critical value: 0.475							
1% critical value: 0.561							
1. Observation Value 0.01 is a Potential Outlier (Upper Tail)?							
Test Statistic: 0.842							
For 10% significance level, 0.01 is an outlier.							
For 5% significance level, 0.01 is an outlier.							
For 1% significance level, 0.01 is an outlier.							
2. Observation Value 0.00024 is a Potential Outlier (Lower Tail)?							
Test Statistic: 0.148							

Appendix B
Outlier Statistics

5% critical value: 0.43

For 10% significance level, 0.00024 is not an outlier.
For 5% significance level, 0.00024 is not an outlier.
For 1% significance level, 0.00024 is not an outlier.

Dixon's Outlier Test for Thallium (m-56a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.002 is an outlier.
For 5% significance level, 0.002 is an outlier.
For 1% significance level, 0.002 is an outlier.

2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.

Dixon's Outlier Test for Thallium (m-57a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?

Appendix B
Outlier Statistics

5% critical value: 0.43
Test Statistic: 0.842

For 10% significance level, 0.002 is an outlier.
For 5% significance level, 0.002 is an outlier.
For 1% significance level, 0.002 is an outlier.

2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.

Dixon's Outlier Test for Thallium (m-58a)

Number of Observations = 22
10% critical value: 0.382
5% critical value: 0.43
1% critical value: 0.514

1. Observation Value 0.002 is a Potential Outlier (Upper Tail)?

Test Statistic: 0.842

For 10% significance level, 0.002 is an outlier.
For 5% significance level, 0.002 is an outlier.
For 1% significance level, 0.002 is an outlier.

2. Observation Value 0.0001 is a Potential Outlier (Lower Tail)?

Test Statistic: 0.000

For 10% significance level, 0.0001 is not an outlier.
For 5% significance level, 0.0001 is not an outlier.
For 1% significance level, 0.0001 is not an outlier.

Appendix B
Summary Statistics

	General Statistics on Uncensored Data
Date/Time of Computation	ProUCL 5.19/6/2021 1:26:19 PM
User Selected Options	
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF

From File: Cholla_SEDI_ProUCL_Jul2021.xls

General Statistics for Censored Data Set (with NDs) using Kaplan Meier Method

Variable	NumObs	# Missing	Num Ds	NumNDs	% NDs	Min ND	Max ND	KM Mean	KM Var	KM SD	KM CV
Antimony (m-56a)	18	5	1	17	94.44%	1.0000E-4	0.05	1.1500E-4	2.250E-10	1.5000E-5	0.13
Antimony (m-57a)	18	6	1	17	94.44%	1.0000E-4	0.05	1.1000E-4	1.000E-10	1.0000E-5	0.0909
Antimony (m-58a)	18	5	0	18	100.00%	1.0000E-4	0.05	N/A	N/A	N/A	N/A
Arsenic (m-56a)	22	1	18	4	18.18%	0.001	0.01	0.00225	7.3037E-6	0.0027	1.203
Arsenic (m-57a)	22	2	22	0	0.00%	N/A	N/A	0.00472	1.7065E-5	0.00413	0.876
Arsenic (m-58a)	22	1	21	1	4.55%	0.01	0.01	0.00425	1.0339E-6	0.00102	0.239
Barium (m-56a)	22	1	22	0	0.00%	N/A	N/A	0.0684	1.1397E-4	0.0107	0.156
Barium (m-57a)	22	2	22	0	0.00%	N/A	N/A	0.046	6.4667E-5	0.00804	0.175
Barium (m-58a)	22	1	22	0	0.00%	N/A	N/A	0.0703	2.8459E-4	0.0169	0.24
Beryllium (m-56a)	18	5	0	18	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Beryllium (m-57a)	18	6	0	18	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Beryllium (m-58a)	18	5	0	18	100.00%	0.001	0.001	N/A	N/A	N/A	N/A
Cadmium (m-56a)	18	5	0	18	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Cadmium (m-57a)	18	6	0	18	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Cadmium (m-58a)	18	5	0	18	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Chromium (m-56a)	22	1	18	4	18.18%	5.0000E-4	0.01	0.0109	2.6848E-4	0.0164	1.503
Chromium (m-57a)	23	1	20	3	13.04%	5.0000E-4	0.01	0.0227	0.00105	0.0324	1.428
Chromium (m-58a)	22	1	8	14	63.64%	5.0000E-4	0.01	9.9807E-4	6.6043E-7	8.1267E-4	0.814
Cobalt (m-56a)	22	1	14	8	36.36%	5.0000E-4	0.0025	8.7874E-4	1.5112E-7	3.8874E-4	0.442
Cobalt (m-57a)	22	2	22	0	0.00%	N/A	N/A	0.00638	4.2495E-6	0.00206	0.323
Cobalt (m-58a)	22	1	6	16	72.73%	5.0000E-4	0.01	6.1158E-4	3.9467E-8	1.9866E-4	0.325
Fluoride (m-56a)	22	1	9	13	59.09%	0.4	0.8	0.41	9.5556E-4	0.0309	0.0754
Fluoride (m-57a)	22	2	3	19	86.36%	0.4	0.8	0.363	0.00179	0.0423	0.117
Fluoride (m-58a)	22	1	2	20	90.91%	0.4	0.8	0.326	6.3488E-4	0.0252	0.0773
Lead (m-56a)	18	5	0	18	100.00%	1.0000E-4	0.01	N/A	N/A	N/A	N/A
Lead (m-57a)	18	6	2	16	88.89%	5.0000E-4	0.01	2.6909E-4	3.4917E-8	1.8686E-4	0.694
Lead (m-58a)	18	5	4	14	77.78%	1.0000E-4	0.01	3.0497E-4	1.0221E-7	3.1971E-4	1.048

Appendix B
Summary Statistics

Lithium (m-56a)	19	4	2	17	89.47%	0.2	1	0.0985	2.2500E-6	0.0015	0.0152
Lithium (m-57a)	19	5	2	17	89.47%	0.2	1	0.094	4.0000E-6	0.002	0.0213
Lithium (m-58a)	19	4	2	17	89.47%	0.2	1	0.0705	2.5000E-7	5.0000E-4	0.00709
Mercury (m-56a)	18	5	0	18	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
Mercury (m-57a)	18	6	0	18	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
Mercury (m-58a)	18	5	0	18	100.00%	2.0000E-4	2.0000E-4	N/A	N/A	N/A	N/A
olybdenum (m-56a)	22	1	22	0	0.00%	N/A	N/A	0.0122	3.1334E-5	0.0056	0.458
olybdenum (m-57a)	22	2	21	1	4.55%	0.0025	0.0025	0.00613	2.5238E-5	0.00502	0.82
olybdenum (m-58a)	22	1	19	3	13.64%	0.0018	0.01	0.00279	1.4535E-5	0.00381	1.364
otal Radium (m-56a)	19	4	12	7	36.84%	0.4	1.2	0.921	0.28	0.529	0.574
otal Radium (m-57a)	19	5	5	14	73.68%	0.4	0.9	0.573	0.0735	0.271	0.473
otal Radium (m-58a)	19	4	9	10	52.63%	0.6	0.9	0.882	0.392	0.626	0.709
Selenium (m-56a)	18	5	5	13	72.22%	5.0000E-4	0.01	4.7743E-4	1.0179E-7	3.1904E-4	0.668
Selenium (m-57a)	18	6	3	15	83.33%	5.0000E-4	0.01	3.9794E-4	8.4065E-8	2.8994E-4	0.729
Selenium (m-58a)	18	5	2	16	88.89%	5.0000E-4	0.01	3.0250E-4	4.2969E-8	2.0729E-4	0.685
Thallium (m-56a)	22	1	1	21	95.45%	1.0000E-4	0.002	1.0125E-4	2.344E-11	4.8412E-6	0.0478
Thallium (m-57a)	22	2	0	22	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A
Thallium (m-58a)	22	1	0	22	100.00%	1.0000E-4	0.002	N/A	N/A	N/A	N/A

General Statistics for Raw Data Sets using Detected Data Only

Variable	NumObs	# Missing	Minimum	Maximum	Mean	Median	Var	SD	MAD/0.675	Skewness	CV
Antimony (m-56a)	1	5	1.3000E-4	1.3000E-4	1.3000E-4	1.3000E-4	N/A	N/A	0	N/A	N/A
Antimony (m-57a)	1	6	1.2000E-4	1.2000E-4	1.2000E-4	1.2000E-4	N/A	N/A	0	N/A	N/A
Antimony (m-58a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Arsenic (m-56a)	18	1	6.0000E-4	0.0088	0.00248	8.8000E-4	8.6065E-6	0.00293	3.3358E-4	1.595	1.183
Arsenic (m-57a)	22	2	0.0017	0.021	0.00472	0.00375	1.7065E-5	0.00413	0.00185	3.208	0.876
Arsenic (m-58a)	21	1	0.0025	0.0066	0.00425	0.0042	1.0856E-6	0.00104	7.4129E-4	0.524	0.245
Barium (m-56a)	22	1	0.05	0.086	0.0684	0.069	1.1397E-4	0.0107	0.0104	-0.203	0.156
Barium (m-57a)	22	2	0.038	0.072	0.046	0.043	6.4667E-5	0.00804	0.00297	2.193	0.175
Barium (m-58a)	22	1	0.043	0.11	0.0703	0.0695	2.8459E-4	0.0169	0.0148	0.661	0.24
Beryllium (m-56a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium (m-57a)	0	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Beryllium (m-58a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium (m-56a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium (m-57a)	0	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Cadmium (m-58a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Appendix B
Summary Statistics

Chromium (m-56a)	18	1	5.1000E-4	0.076	0.0129	0.0065	3.2190E-4	0.0179	0.00437	2.897	1.386
Chromium (m-57a)	20	1	6.6000E-4	0.16	0.0258	0.0165	0.00119	0.0345	0.0179	3.354	1.335
Chromium (m-58a)	8	1	5.2000E-4	0.0033	0.00151	9.8500E-4	1.1888E-6	0.00109	6.6716E-4	0.999	0.724
Cobalt (m-56a)	14	1	6.1000E-4	0.002	0.00103	9.8500E-4	1.5731E-7	3.9663E-4	4.2254E-4	1.039	0.386
Cobalt (m-57a)	22	2	0.0026	0.0088	0.00638	0.0071	4.2495E-6	0.00206	0.002	-0.629	0.323
Cobalt (m-58a)	6	1	5.1000E-4	0.0011	8.2333E-4	8.8000E-4	5.8547E-8	2.4196E-4	2.5204E-4	-0.364	0.294
Fluoride (m-56a)	9	1	0.39	0.49	0.43	0.42	0.00125	0.0354	0.0297	0.655	0.0822
Fluoride (m-57a)	3	2	0.35	0.53	0.433	0.42	0.00823	0.0907	0.104	0.647	0.209
Fluoride (m-58a)	2	1	0.32	0.43	0.375	0.375	0.00605	0.0778	0.0815	N/A	0.207
Lead (m-56a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Lead (m-57a)	2	6	2.1000E-4	8.6000E-4	5.3500E-4	5.3500E-4	2.1125E-7	4.5962E-4	4.8184E-4	N/A	0.859
Lead (m-58a)	4	5	5.6000E-4	0.0011	7.5750E-4	6.8500E-4	6.1625E-8	2.4824E-4	1.6308E-4	1.211	0.328
Lithium (m-56a)	2	4	0.097	0.1	0.0985	0.0985	4.5000E-6	0.00212	0.00222	N/A	0.0215
Lithium (m-57a)	2	5	0.092	0.096	0.094	0.094	8.0000E-6	0.00283	0.00297	N/A	0.0301
Lithium (m-58a)	2	4	0.07	0.071	0.0705	0.0705	5.0000E-7	7.0711E-4	7.4129E-4	N/A	0.01
Mercury (m-56a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury (m-57a)	0	6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Mercury (m-58a)	0	5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
lolybdenum (m-56a)	22	1	0.0057	0.029	0.0122	0.0104	3.1334E-5	0.0056	0.00304	1.797	0.458
lolybdenum (m-57a)	21	2	0.0011	0.022	0.00637	0.0046	2.6438E-5	0.00514	0.00252	2.108	0.808
lolybdenum (m-58a)	19	1	0.0014	0.02	0.00295	0.0018	1.7537E-5	0.00419	2.9652E-4	4.17	1.418
otal Radium (m-56a)	12	4	0.5	1.9	1.158	1.3	0.312	0.558	0.815	-0.0761	0.482
otal Radium (m-57a)	5	5	0.5	1.5	0.88	0.7	0.172	0.415	0.297	0.971	0.471
otal Radium (m-58a)	9	4	0.5	2.6	1.3	0.9	0.555	0.745	0.445	0.84	0.573
Selenium (m-56a)	5	5	3.3000E-4	0.0016	7.3600E-4	5.7000E-4	2.4583E-7	4.9581E-4	7.4129E-5	1.936	0.674
Selenium (m-57a)	3	6	2.9000E-4	0.0014	7.9333E-4	6.9000E-4	3.1603E-7	5.6217E-4	5.9303E-4	0.799	0.709
Selenium (m-58a)	2	5	2.4000E-4	9.9000E-4	6.1500E-4	6.1500E-4	2.8125E-7	5.3033E-4	5.5597E-4	N/A	0.862
Thallium (m-56a)	1	1	1.2000E-4	1.2000E-4	1.2000E-4	1.2000E-4	N/A	N/A	0	N/A	N/A
Thallium (m-57a)	0	2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Thallium (m-58a)	0	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Percentiles using all Detects (Ds) and Non-Detects (NDs)

Variable	NumObs	# Missing	10%ile	20%ile	25%ile(Q1)	50%ile(Q2)	75%ile(Q3)	80%ile	90%ile	95%ile	99%ile
Antimony (m-56a)	18	5	3.8900E-4	0.001	0.001	0.001	0.002	0.0023	0.0043	0.0117	0.0423
Antimony (m-57a)	18	6	3.8600E-4	0.001	0.001	0.001	0.002	0.0023	0.0043	0.0117	0.0423
Antimony (m-58a)	18	5	3.8000E-4	0.001	0.001	0.001	0.002	0.0023	0.0043	0.0117	0.0423

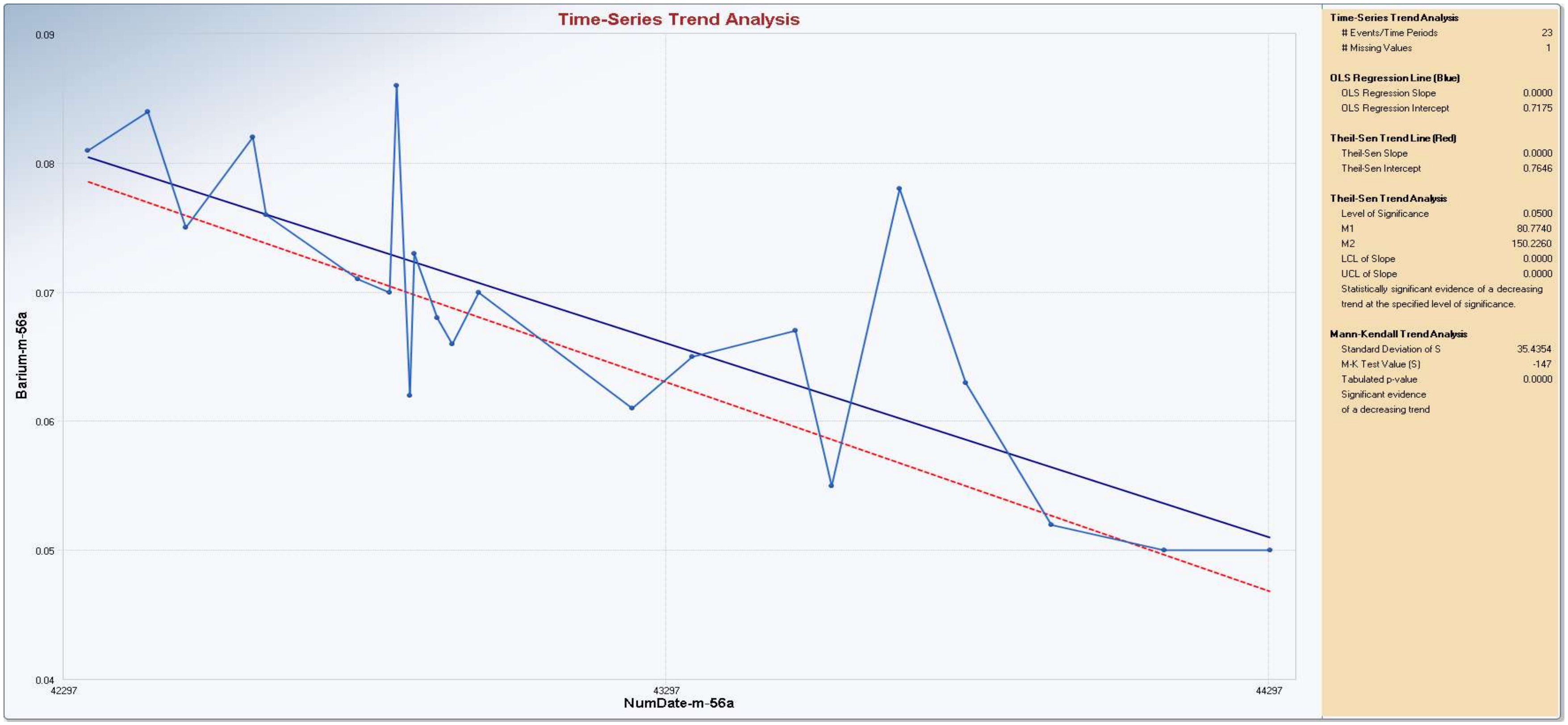
Appendix B
Summary Statistics

Arsenic (m-56a)	22	1	6.8200E-4	7.5200E-4	7.7250E-4	0.00105	0.0028	0.0041	0.00847	0.00879	0.00975
Arsenic (m-57a)	22	2	0.00192	0.00228	0.00263	0.00375	0.00503	0.0059	0.00658	0.00964	0.0186
Arsenic (m-58a)	22	1	0.00302	0.0037	0.00373	0.0042	0.00478	0.00504	0.00606	0.00658	0.00929
Barium (m-56a)	22	1	0.0523	0.0612	0.0623	0.069	0.0758	0.0776	0.0819	0.0839	0.0856
Barium (m-57a)	22	2	0.041	0.0412	0.042	0.043	0.0468	0.047	0.0546	0.0626	0.0701
Barium (m-58a)	22	1	0.0496	0.0558	0.06	0.0695	0.0783	0.0798	0.0954	0.0999	0.108
Beryllium (m-56a)	18	5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Beryllium (m-57a)	18	6	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Beryllium (m-58a)	18	5	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Cadmium (m-56a)	18	5	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	2.0000E-4	2.0000E-4	4.3000E-4	7.2500E-4	0.00175
Cadmium (m-57a)	18	6	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	2.0000E-4	2.0000E-4	4.3000E-4	7.2500E-4	0.00175
Cadmium (m-58a)	18	5	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	2.0000E-4	2.0000E-4	4.3000E-4	7.2500E-4	0.00175
Chromium (m-56a)	22	1	5.7900E-4	0.00292	0.00355	0.00575	0.00983	0.0132	0.0227	0.0335	0.0672
Chromium (m-57a)	23	1	0.00105	0.00428	0.00585	0.015	0.0295	0.0334	0.0412	0.0447	0.135
Chromium (m-58a)	22	1	5.0200E-4	6.2200E-4	9.2500E-4	0.001	0.002	0.0028	0.00393	0.00495	0.00895
Cobalt (m-56a)	22	1	5.0000E-4	6.1600E-4	6.4250E-4	8.8500E-4	0.00128	0.0013	0.00193	0.002	0.0024
Cobalt (m-57a)	22	2	0.00292	0.0045	0.00493	0.0071	0.0081	0.0082	0.00857	0.0087	0.00878
Cobalt (m-58a)	22	1	5.0000E-4	5.0000E-4	5.0000E-4	5.4000E-4	0.001	0.001	0.00191	0.00248	0.00842
Fluoride (m-56a)	22	1	0.4	0.4	0.4	0.4	0.468	0.486	0.8	0.8	0.8
Fluoride (m-57a)	22	2	0.4	0.4	0.4	0.4	0.4	0.416	0.773	0.8	0.8
Fluoride (m-58a)	22	1	0.4	0.4	0.4	0.4	0.4	0.424	0.8	0.8	0.8
Lead (m-56a)	18	5	5.0000E-4	5.0000E-4	5.0000E-4	5.0000E-4	0.001	0.001	0.00215	0.00362	0.00872
Lead (m-57a)	18	6	5.0000E-4	5.0000E-4	5.0000E-4	5.0000E-4	0.001	0.001	0.00215	0.00362	0.00872
Lead (m-58a)	18	5	5.0000E-4	5.0000E-4	5.0000E-4	5.7500E-4	0.001	0.00106	0.00215	0.00362	0.00872
Lithium (m-56a)	19	4	0.18	0.2	0.2	0.2	0.2	0.2	0.2	0.28	0.856
Lithium (m-57a)	19	5	0.179	0.2	0.2	0.2	0.2	0.2	0.2	0.28	0.856
Lithium (m-58a)	19	4	0.174	0.2	0.2	0.2	0.2	0.2	0.2	0.28	0.856
Mercury (m-56a)	18	5	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4
Mercury (m-57a)	18	6	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4
Mercury (m-58a)	18	5	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4	2.0000E-4
lolybdenum (m-56a)	22	1	0.00791	0.00876	0.00908	0.0104	0.013	0.0138	0.0205	0.0229	0.0277
lolybdenum (m-57a)	22	2	0.00263	0.00292	0.00318	0.0045	0.00668	0.0076	0.0116	0.0177	0.0212
lolybdenum (m-58a)	22	1	0.00161	0.0017	0.00173	0.0018	0.0022	0.00244	0.00448	0.00974	0.0179
otal Radium (m-56a)	19	4	0.5	0.6	0.6	0.8	1.45	1.54	1.72	1.81	1.882
otal Radium (m-57a)	19	5	0.58	0.6	0.6	0.7	0.75	0.8	0.94	1.14	1.428
otal Radium (m-58a)	19	4	0.6	0.66	0.7	0.7	0.9	1.02	1.96	2.24	2.528
Selenium (m-56a)	18	5	5.0000E-4	5.0000E-4	5.0000E-4	5.6500E-4	0.001	0.00136	0.00215	0.00362	0.00872

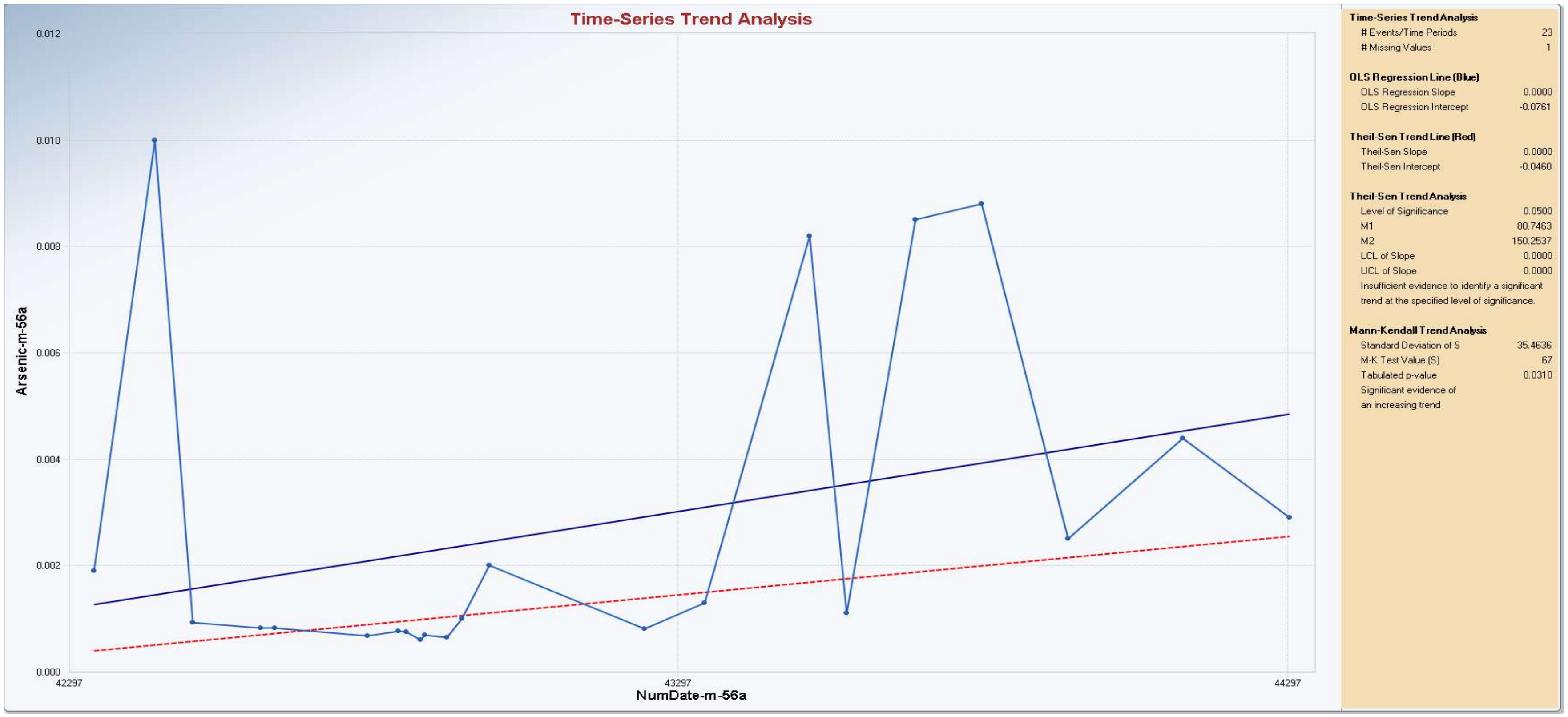
Appendix B
Summary Statistics

Selenium (m-57a)	18	6	5.0000E-4	5.0000E-4	5.0000E-4	5.5000E-4	0.001	0.00124	0.00215	0.00362	0.00872
Selenium (m-58a)	18	5	5.0000E-4	5.0000E-4	5.0000E-4	5.0000E-4	0.001	0.001	0.00215	0.00362	0.00872
Thallium (m-56a)	22	1	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	1.8000E-4	2.0000E-4	3.8000E-4	4.9500E-4	0.00169
Thallium (m-57a)	22	2	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	2.0000E-4	2.0000E-4	3.8000E-4	4.9500E-4	0.00169
Thallium (m-58a)	22	1	1.0000E-4	1.0000E-4	1.0000E-4	1.0000E-4	2.0000E-4	2.0000E-4	3.8000E-4	4.9500E-4	0.00169

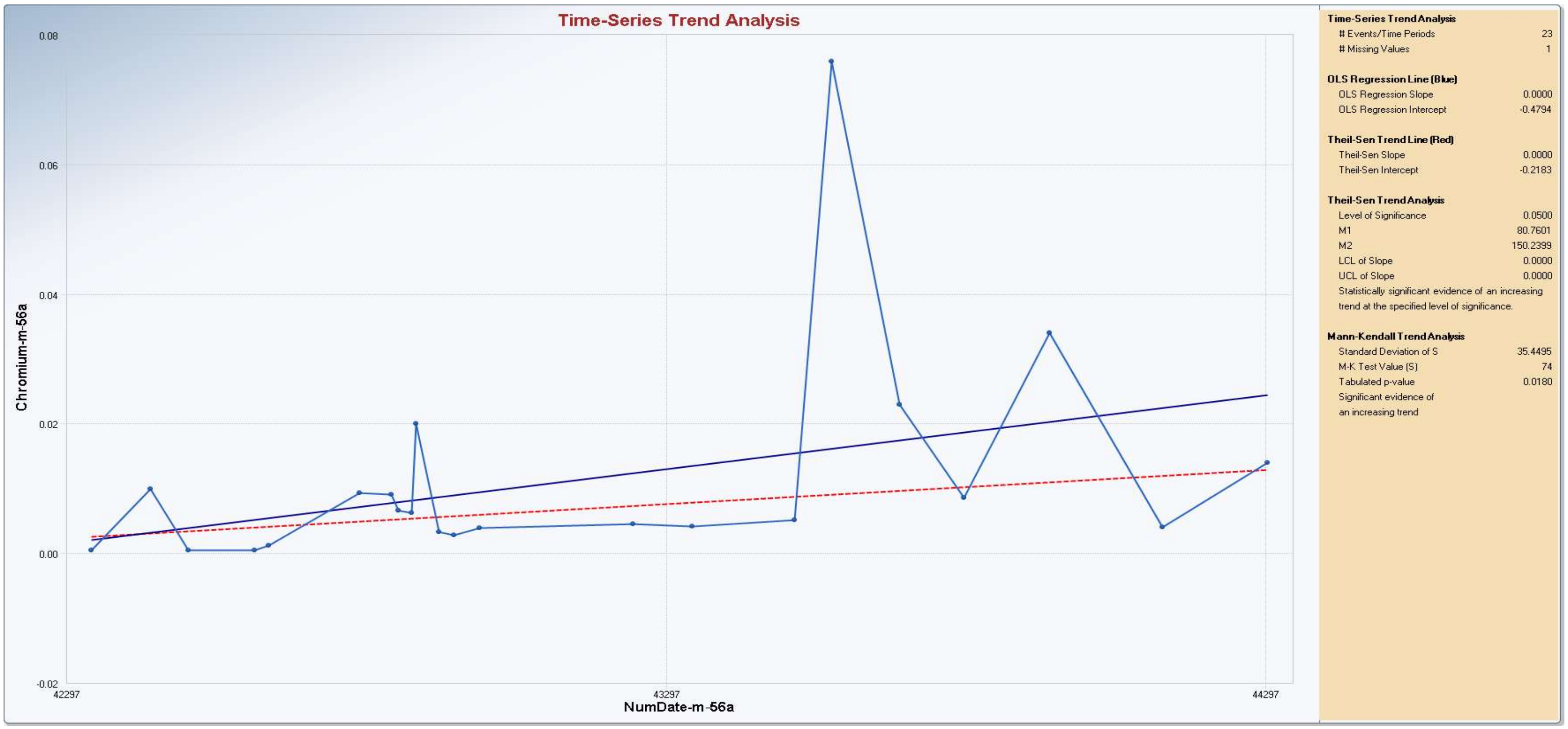
Appendix B
Time Series Plots



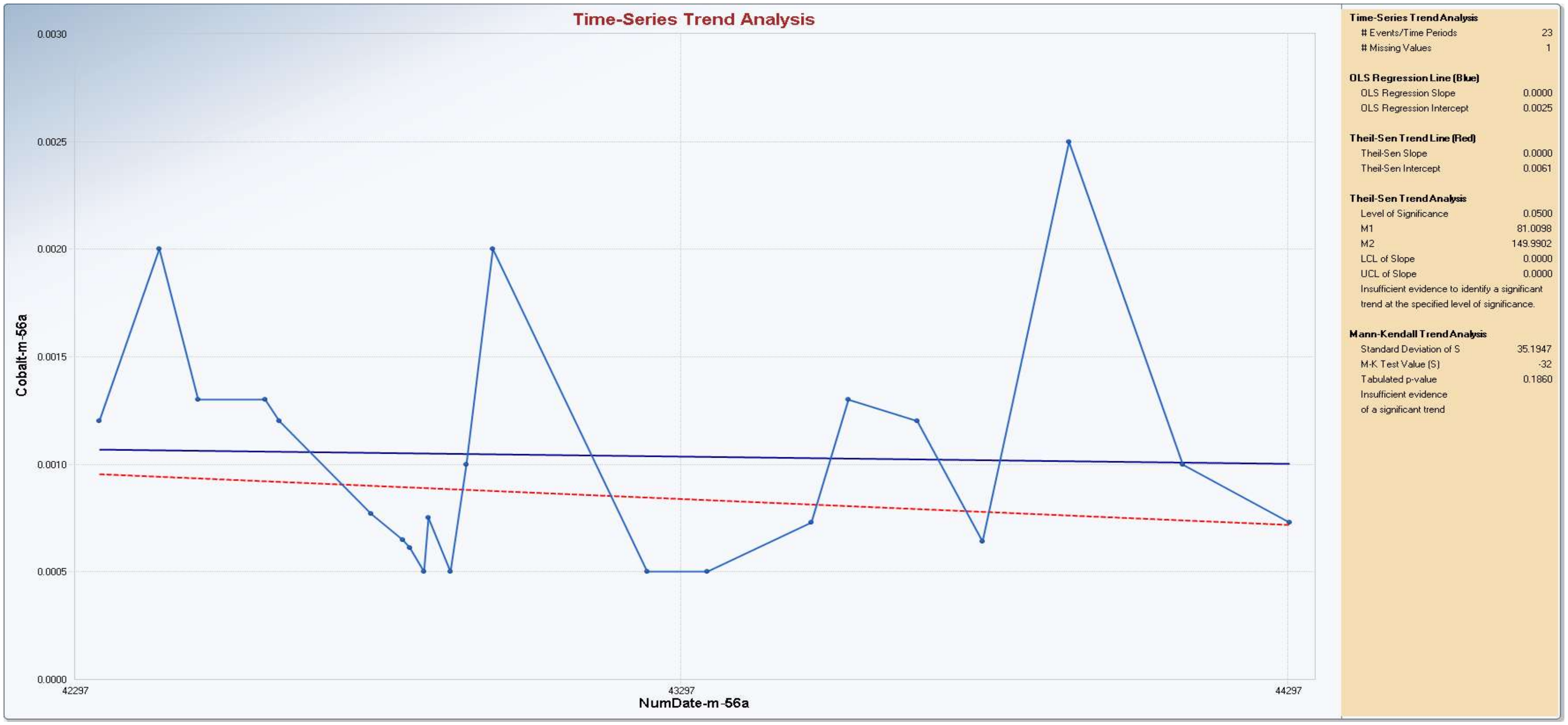
Appendix B
Time Series Plots



Appendix B
Time Series Plots

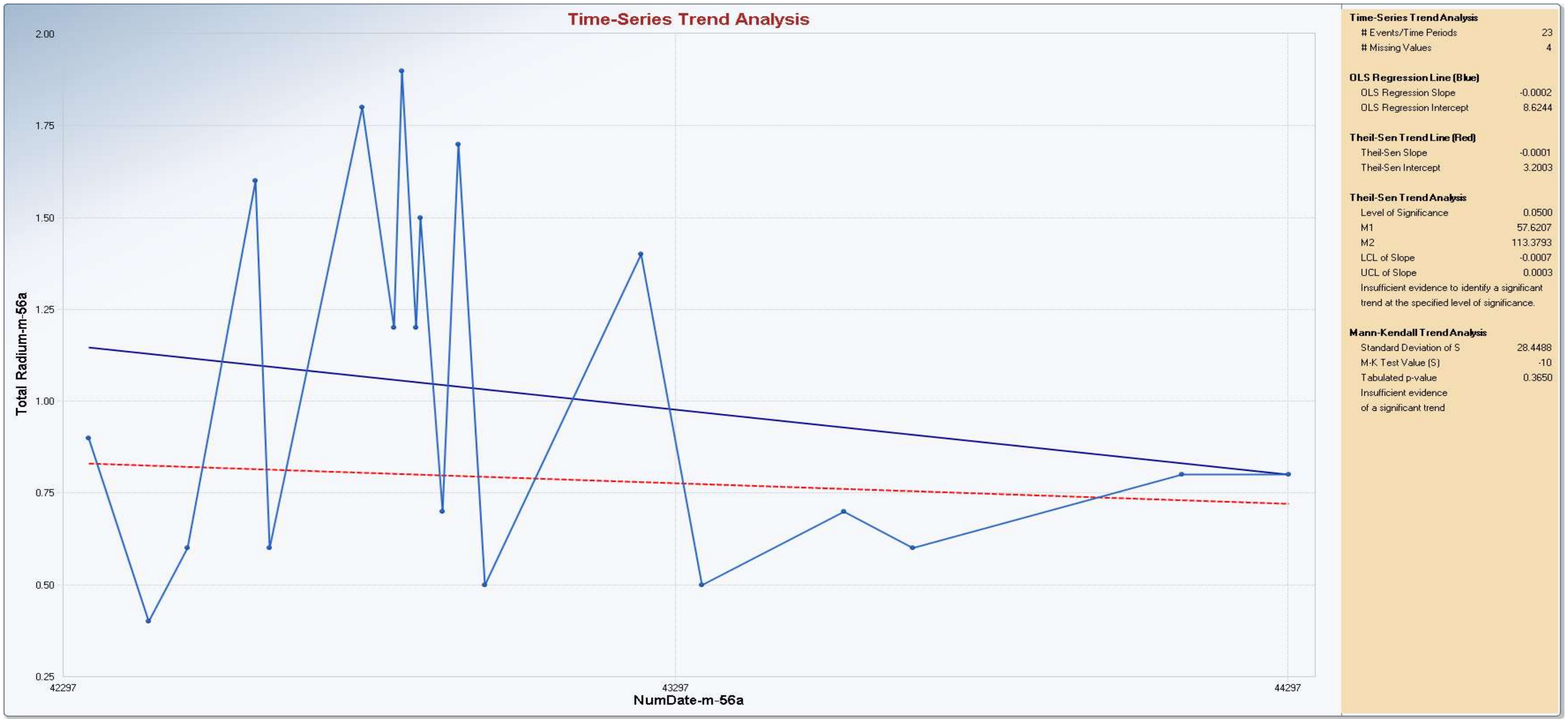


Appendix B
Time Series Plots

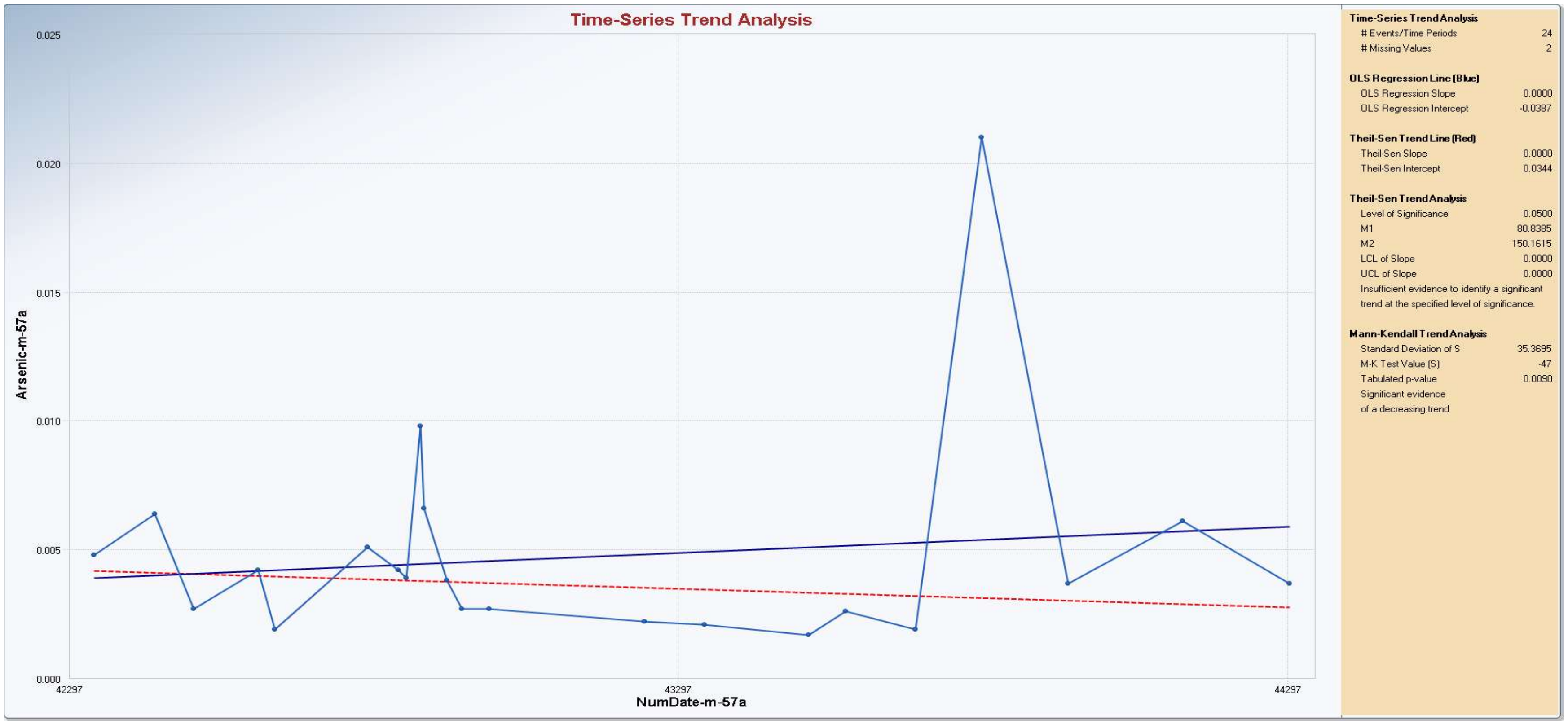


Appendix B
Time Series Plots

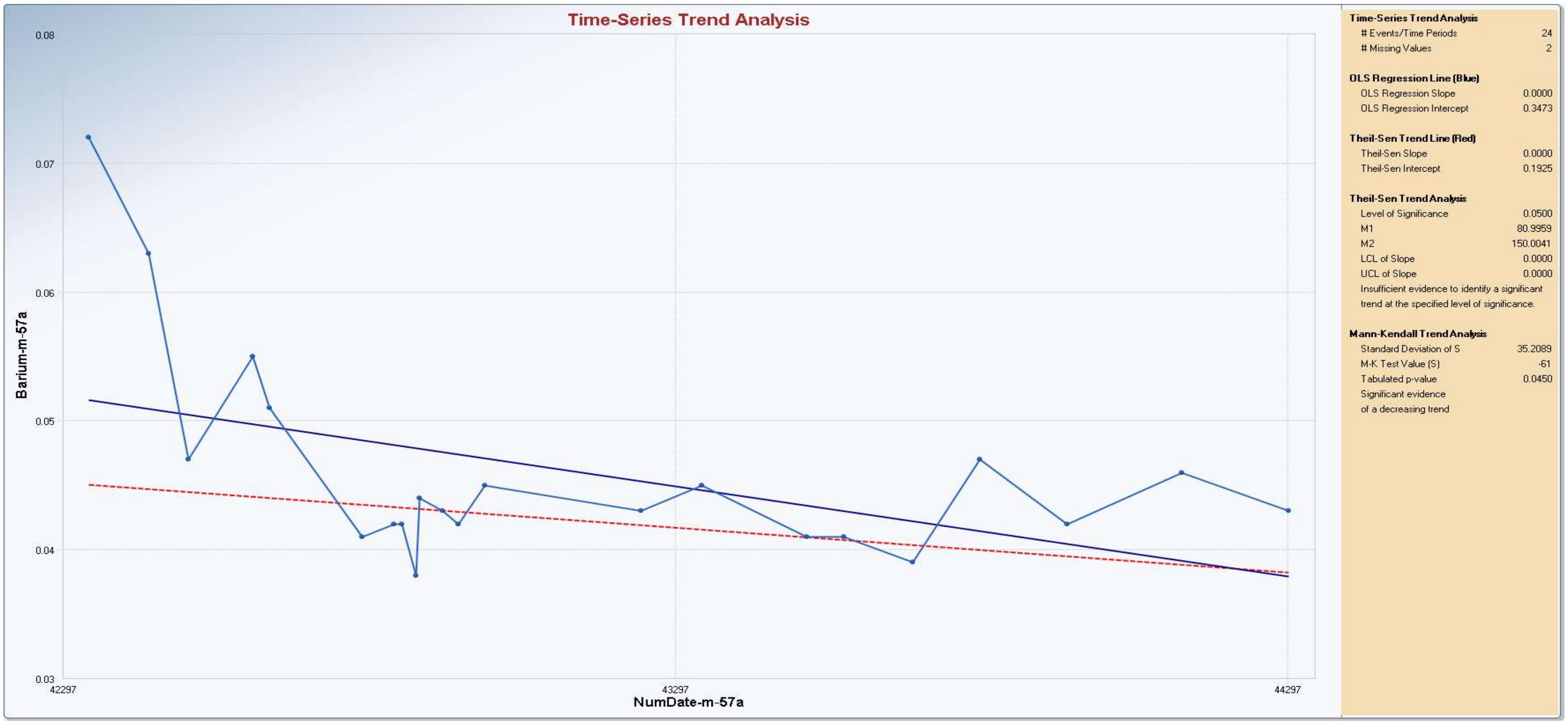
Appendix B
Time Series Plots



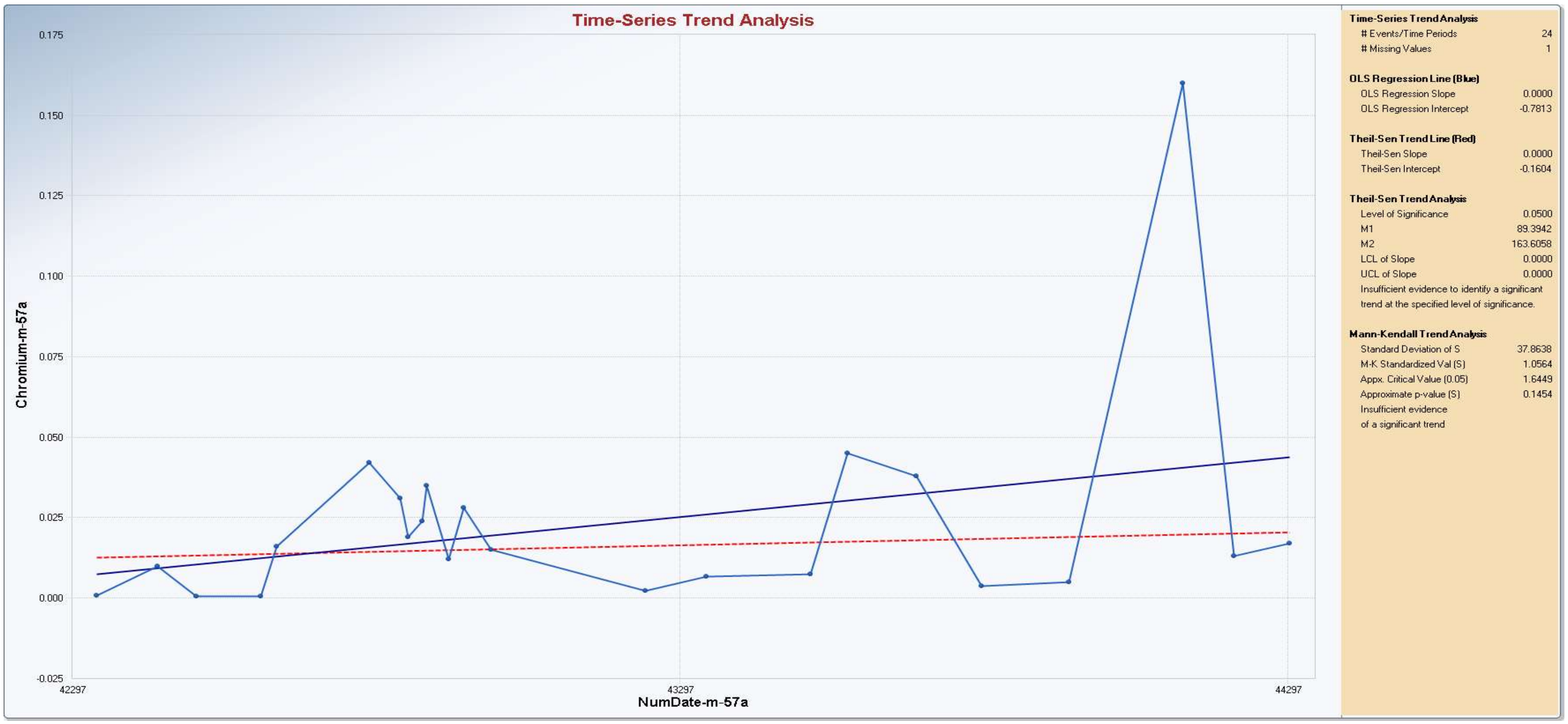
Appendix B
Time Series Plots



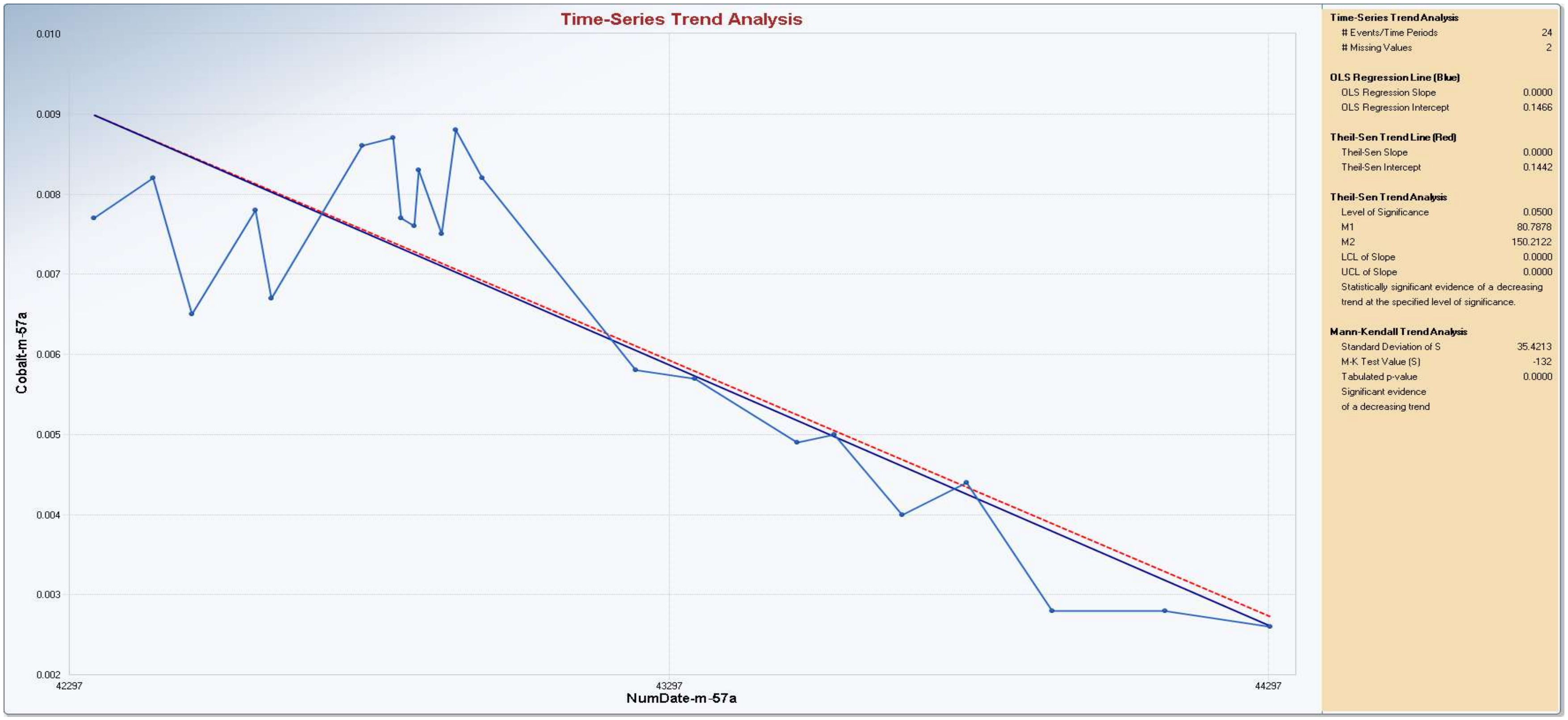
Appendix B
Time Series Plots



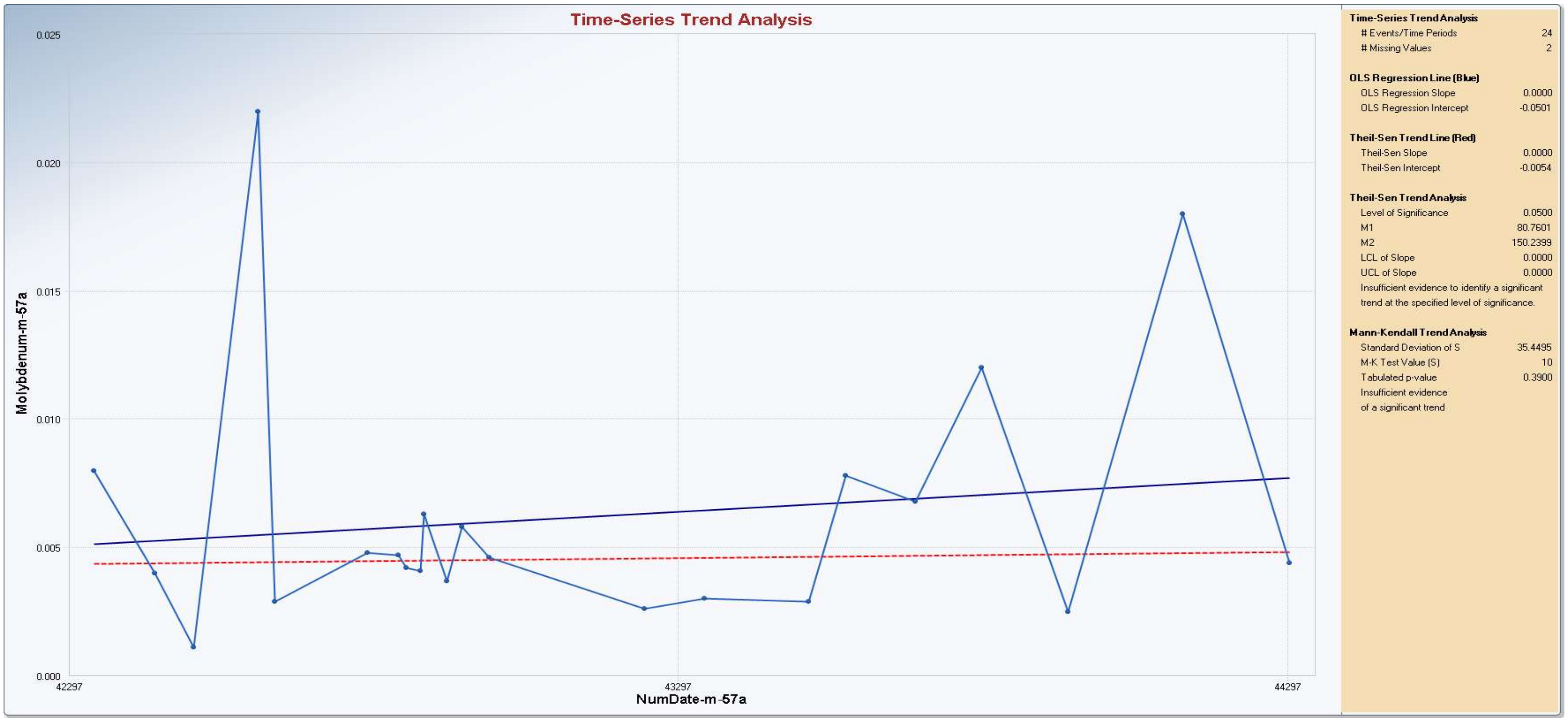
Appendix B
Time Series Plots



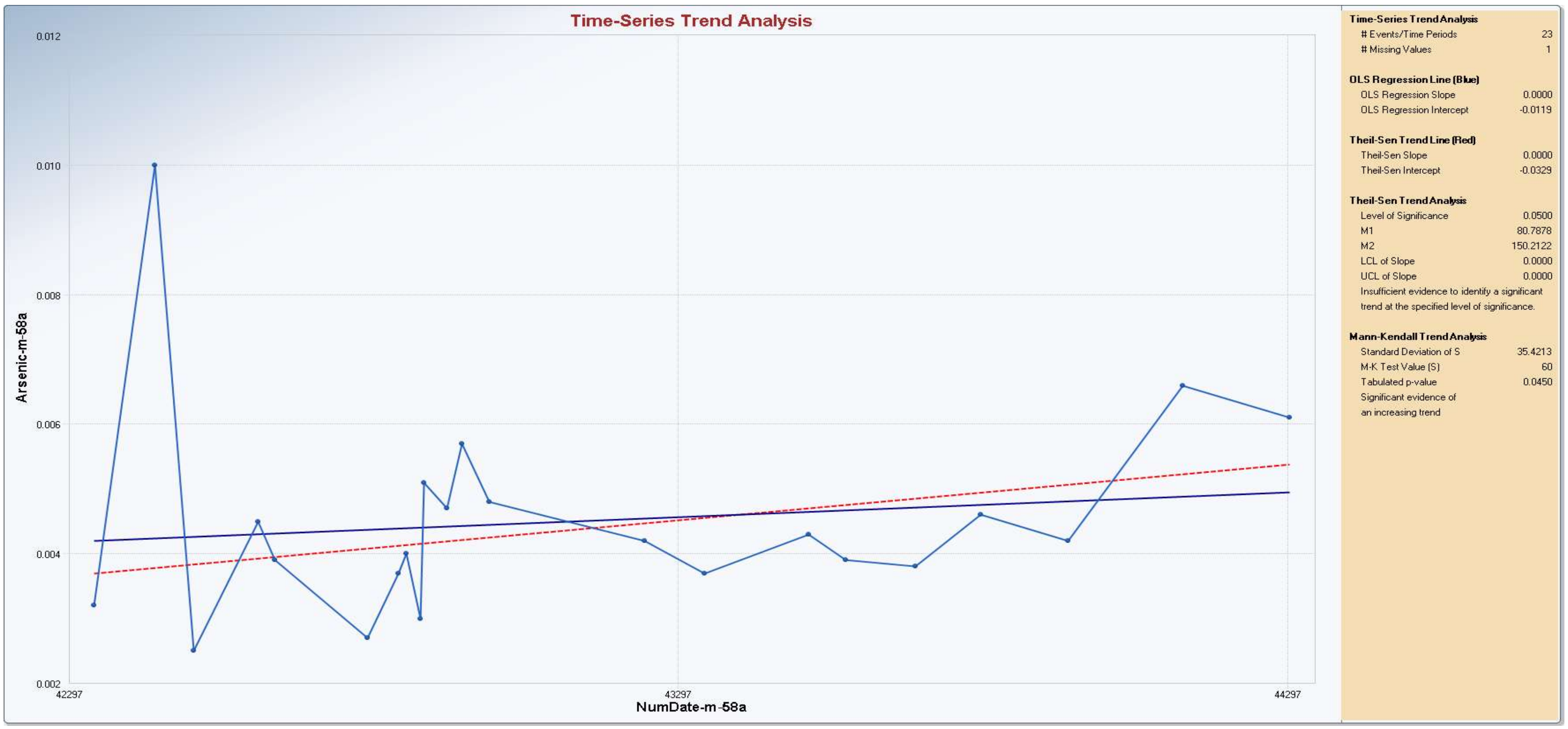
Appendix B
Time Series Plots



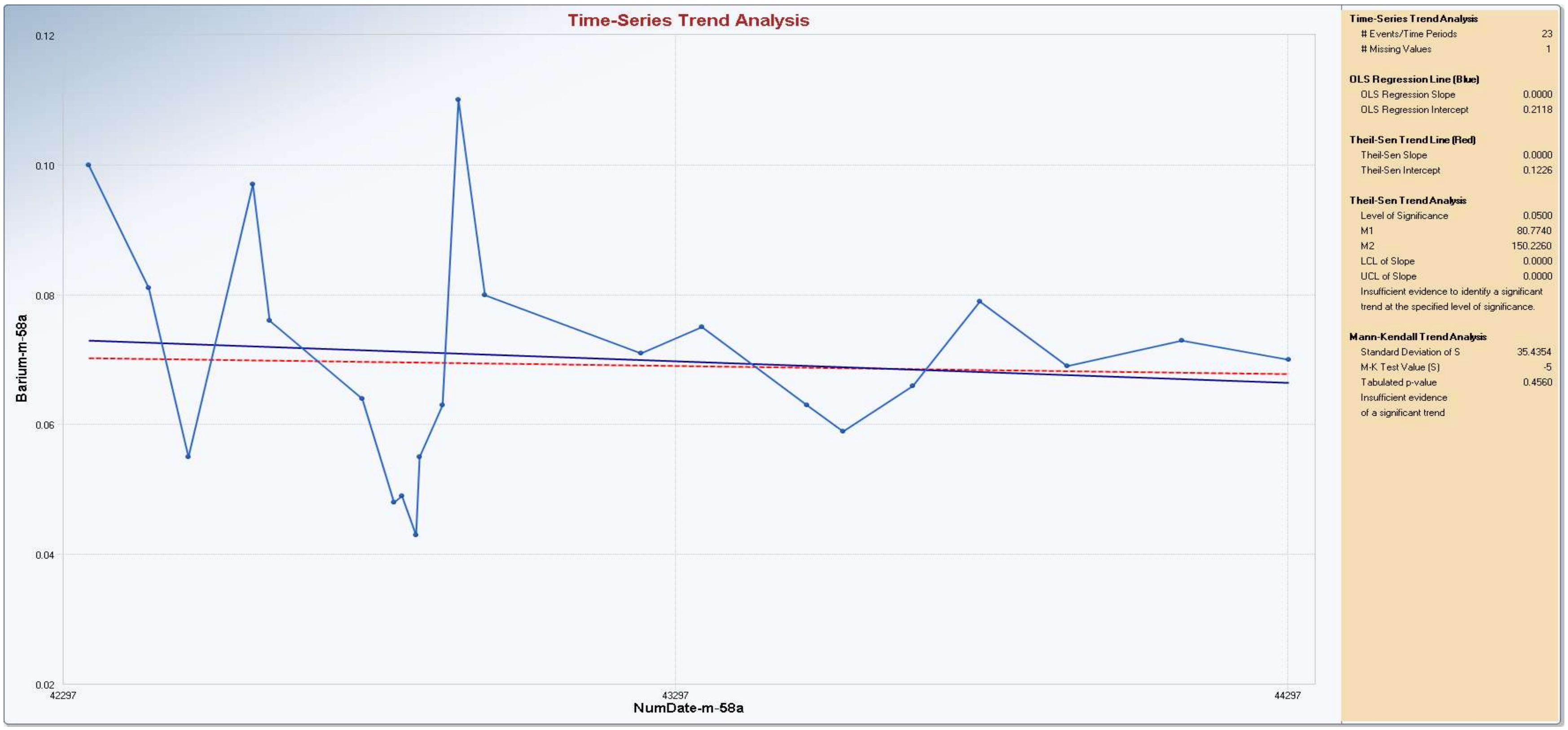
Appendix B
Time Series Plots



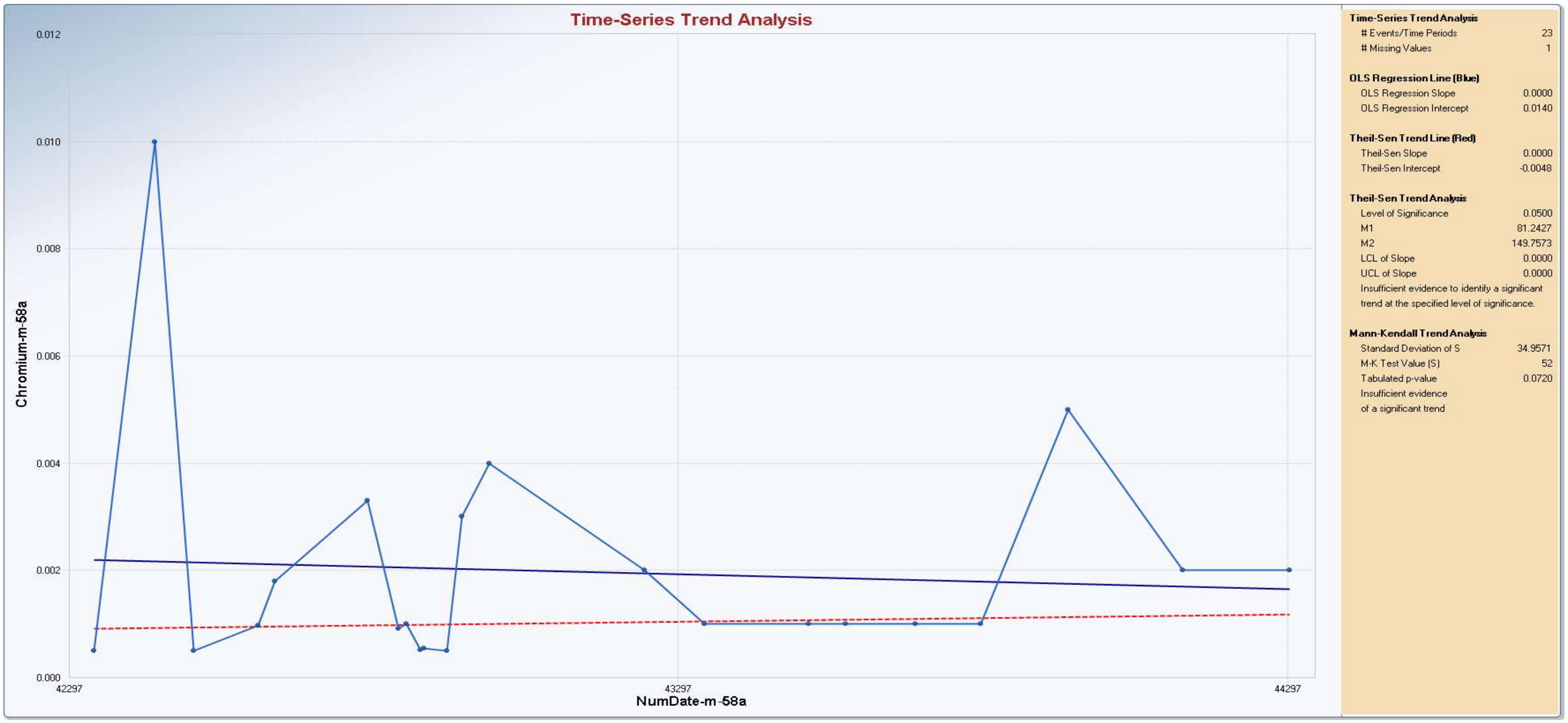
Appendix B
Time Series Plots



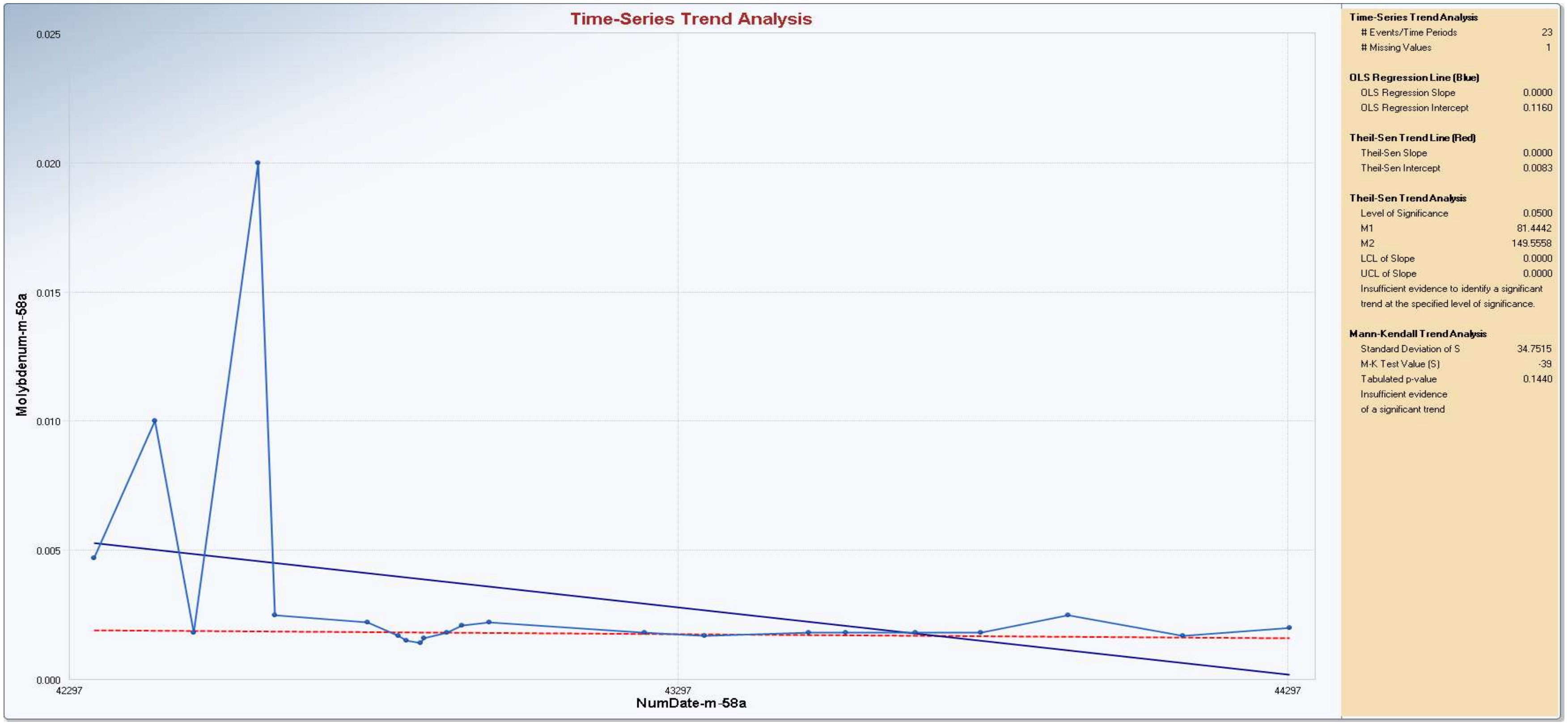
Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Plots



Appendix B
Time Series Statistics

	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/16/2021 10:43:05 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Arsenic-m-56a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	1
Number or Reported Events Used	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	6.0000E-4
Maximum	0.01
Mean	0.00273
Geometric Mean	0.00165
Median	0.00105
Standard Deviation	0.00312
Coefficient of Variation	1.14
Mann-Kendall Test	
M-K Test Value (S)	67
Tabulated p-value	0.031
Standard Deviation of S	35.46
Standardized Value of S	1.861
Approximate p-value	0.0314
Statistically significant evidence of an increasing trend at the specified level of significance.	
Arsenic-m-57a	
General Statistics	
Number of Events Reported (m)	24
Number of Missing Events	2
Number or Reported Events Used	22

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Number Values Reported (n)	24
Number Values Missing	2
Number Values Used	22
Minimum	0.0017
Maximum	0.021
Mean	0.00472
Geometric Mean	0.00383
Median	0.00375
Standard Deviation	0.00413
Coefficient of Variation	0.876
Mann-Kendall Test	
M-K Test Value (S)	-47
Tabulated p-value	0.009
Standard Deviation of S	35.37
Standardized Value of S	-1.301
Approximate p-value	0.0967
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Arsenic-m-58a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	1
Number or Reported Events Used	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	0.0025
Maximum	0.01
Mean	0.00451
Geometric Mean	0.0043
Median	0.0042
Standard Deviation	0.00159
Coefficient of Variation	0.353
Mann-Kendall Test	
M-K Test Value (S)	60

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Tabulated p-value	0.045
Standard Deviation of S	35.42
Standardized Value of S	1.666
Approximate p-value	0.0479
Statistically significant evidence of an increasing trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/16/2021 10:42:32 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Barium-m-56a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	1
Number or Reported Events Used	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	0.05
Maximum	0.086
Mean	0.0684
Geometric Mean	0.0676
Median	0.069
Standard Deviation	0.0107
Coefficient of Variation	0.156
Mann-Kendall Test	
M-K Test Value (S)	-147
Tabulated p-value	0
Standard Deviation of S	35.44
Standardized Value of S	-4.12
Approximate p-value	1.8929E-5

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
Barium-m-57a	
General Statistics	
Number of Events Reported (m)	24
Number of Missing Events	2
Number or Reported Events Used	22
Number Values Reported (n)	24
Number Values Missing	2
Number Values Used	22
Minimum	0.038
Maximum	0.072
Mean	0.046
Geometric Mean	0.0454
Median	0.043
Standard Deviation	0.00804
Coefficient of Variation	0.175
Mann-Kendall Test	
M-K Test Value (S)	-61
Tabulated p-value	0.045
Standard Deviation of S	35.21
Standardized Value of S	-1.704
Approximate p-value	0.0442
Statistically significant evidence of a decreasing	
trend at the specified level of significance.	
Barium-m-58a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	1
Number or Reported Events Used	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	0.043
Maximum	0.11

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Mean	0.0703
Geometric Mean	0.0684
Median	0.0695
Standard Deviation	0.0169
Coefficient of Variation	0.24
Mann-Kendall Test	
M-K Test Value (S)	-5
Tabulated p-value	0.456
Standard Deviation of S	35.44
Standardized Value of S	-0.113
Approximate p-value	0.455
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/16/2021 10:44:25 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Chromium-m-56a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	1
Number or Reported Events Used	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	5.0000E-4
Maximum	0.076
Mean	0.0113
Geometric Mean	0.00539
Median	0.00575
Standard Deviation	0.0166
Coefficient of Variation	1.475

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Mann-Kendall Test	
M-K Test Value (S)	74
Tabulated p-value	0.018
Standard Deviation of S	35.45
Standardized Value of S	2.059
Approximate p-value	0.0197
Statistically significant evidence of an increasing	
trend at the specified level of significance.	
Chromium-m-57a	
General Statistics	
Number of Events Reported (m)	24
Number of Missing Events	1
Number or Reported Events Used	23
Number Values Reported (n)	24
Number Values Missing	1
Number Values Used	23
Minimum	5.0000E-4
Maximum	0.16
Mean	0.0231
Geometric Mean	0.0108
Median	0.015
Standard Deviation	0.0329
Coefficient of Variation	1.42
Mann-Kendall Test	
M-K Test Value (S)	41
Critical Value (0.05)	1.645
Standard Deviation of S	37.86
Standardized Value of S	1.056
Approximate p-value	0.145
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Chromium-m-58a	
General Statistics	

Appendix B
Time Series Statistics

Number of Events Reported (m)	23							
Number of Events Reported (m)	23							
Number of Missing Events	1							
Number or Reported Events Used	22							
Number Values Reported (n)	23							
Number Values Missing	1							
Number Values Used	22							
Minimum	5.0000E-4							
Maximum	0.01							
Mean	0.00198							
Geometric Mean	0.00136							
Median	0.001							
Standard Deviation	0.00217							
Coefficient of Variation	1.097							
Mann-Kendall Test								
M-K Test Value (S)	52							
Tabulated p-value	0.072							
Standard Deviation of S	34.96							
Standardized Value of S	1.459							
Approximate p-value	0.0723							
Insufficient evidence to identify a significant								
trend at the specified level of significance.								
	Mann-Kendall Trend Test Analysis							
User Selected Options								
Date/Time of Computation	ProUCL 5.19/16/2021 11:03:26 PM							
From File	Cholla_SEDI_ProUCL_Jul2021.xls							
Full Precision	OFF							
Confidence Coefficient	0.95							
Level of Significance	0.05							
Cobalt-m-56a								
General Statistics								
Number or Reported Events Not Used	0							
Number of Generated Events	22							
Number Values Reported (n)	23							
Number Values Missing	1							
Number Values Used	22							

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Minimum	5.0000E-4
Maximum	0.0025
Mean	0.00104
Geometric Mean	9.2624E-4
Median	8.8500E-4
Standard Deviation	5.4643E-4
Coefficient of Variation	0.525
Mann-Kendall Test	
M-K Test Value (S)	-32
Tabulated p-value	0.186
Standard Deviation of S	35.19
Standardized Value of S	-0.881
Approximate p-value	0.189
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Cobalt-m-57a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	24
Number Values Missing	2
Number Values Used	22
Minimum	0.0026
Maximum	0.0088
Mean	0.00638
Geometric Mean	0.00598
Median	0.0071
Standard Deviation	0.00206
Coefficient of Variation	0.323
Mann-Kendall Test	
M-K Test Value (S)	-132
Tabulated p-value	0
Standard Deviation of S	35.42
Standardized Value of S	-3.698
Approximate p-value	1.0851E-4

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Cobalt-m-58a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	5.0000E-4
Maximum	0.01
Mean	0.00125
Geometric Mean	8.1777E-4
Median	5.4000E-4
Standard Deviation	0.00202
Coefficient of Variation	1.621
Mann-Kendall Test	
M-K Test Value (S)	-18
Tabulated p-value	0.308
Standard Deviation of S	33.53
Standardized Value of S	-0.507
Approximate p-value	0.306
Insufficient evidence to identify a significant trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/16/2021 11:19:41 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95
Level of Significance	0.05
Molybdenum-m-56a	
General Statistics	

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	0.0057
Maximum	0.029
Mean	0.0122
Geometric Mean	0.0113
Median	0.0104
Standard Deviation	0.0056
Coefficient of Variation	0.458
Mann-Kendall Test	
M-K Test Value (S)	-105
Tabulated p-value	0.001
Standard Deviation of S	35.4
Standardized Value of S	-2.938
Approximate p-value	0.00165
Statistically significant evidence of a decreasing trend at the specified level of significance.	
Molybdenum-m-57a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	24
Number Values Missing	2
Number Values Used	22
Minimum	0.0011
Maximum	0.022
Mean	0.00619
Geometric Mean	0.0049
Median	0.0045
Standard Deviation	0.00509
Coefficient of Variation	0.821
Mann-Kendall Test	

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
M-K Test Value (S)	10
Tabulated p-value	0.39
Standard Deviation of S	35.45
Standardized Value of S	0.254
Approximate p-value	0.4
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Molybdenum-m-58a	
General Statistics	
Number or Reported Events Not Used	0
Number of Generated Events	22
Number Values Reported (n)	23
Number Values Missing	1
Number Values Used	22
Minimum	0.0014
Maximum	0.02
Mean	0.0032
Geometric Mean	0.00233
Median	0.0018
Standard Deviation	0.00417
Coefficient of Variation	1.304
Mann-Kendall Test	
M-K Test Value (S)	-39
Tabulated p-value	0.144
Standard Deviation of S	34.75
Standardized Value of S	-1.093
Approximate p-value	0.137
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
	Mann-Kendall Trend Test Analysis
User Selected Options	
Date/Time of Computation	ProUCL 5.19/16/2021 11:21:29 PM
From File	Cholla_SEDI_ProUCL_Jul2021.xls
Full Precision	OFF
Confidence Coefficient	0.95

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Level of Significance	0.05
Total Radium-m-56a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	4
Number or Reported Events Used	19
Number Values Reported (n)	23
Number Values Missing	4
Number Values Used	19
Minimum	0.4
Maximum	1.9
Mean	1.021
Geometric Mean	0.911
Median	0.8
Standard Deviation	0.494
Coefficient of Variation	0.484
Mann-Kendall Test	
M-K Test Value (S)	-10
Tabulated p-value	0.365
Standard Deviation of S	28.45
Standardized Value of S	-0.316
Approximate p-value	0.376
Insufficient evidence to identify a significant	
trend at the specified level of significance.	
Total Radium-m-57a	
General Statistics	
Number of Events Reported (m)	24
Number of Missing Events	5
Number or Reported Events Used	19
Number Values Reported (n)	24
Number Values Missing	5
Number Values Used	19
Minimum	0.4
Maximum	1.5

Appendix B
Time Series Statistics

Number of Events Reported (m)	23
Mean	0.732
Geometric Mean	0.702
Median	0.7
Standard Deviation	0.238
Coefficient of Variation	0.326
Mann-Kendall Test	
M-K Test Value (S)	43
Tabulated p-value	0.072
Standard Deviation of S	27.48
Standardized Value of S	1.529
Approximate p-value	0.0632
Insufficient evidence to identify a significant trend at the specified level of significance.	
Total Radium-m-58a	
General Statistics	
Number of Events Reported (m)	23
Number of Missing Events	4
Number or Reported Events Used	19
Number Values Reported (n)	23
Number Values Missing	4
Number Values Used	19
Minimum	0.5
Maximum	2.6
Mean	0.984
Geometric Mean	0.874
Median	0.7
Standard Deviation	0.588
Coefficient of Variation	0.598
Mann-Kendall Test	
M-K Test Value (S)	-55
Tabulated p-value	0.029
Standard Deviation of S	27.93
Standardized Value of S	-1.933
Approximate p-value	0.0266

Appendix B
Time Series Statistics

Number of Events Reported (m)	23								
Statistically significant evidence of a decreasing trend at the specified level of significance.									

Appendix L

Operations Inspection of the Fly Ash Pond Seepage Intercept Systems

Technical Memorandum

To:	Arizona Public Service	**Project No:**	14-2018-2040
By:	Becky Weaver, PE	**Reviewed by:**	Andrea Kagie-Hay, PE Maren Henley, PE Robert Kozojet
Tel:	(602) 733-6000	**CC:**	File
Date:	January 24, 2022		

Re: **OPERATIONS INSPECTION OF THE FLY ASH POND SEEPAGE INTERCEPT SYSTEMS**
Arizona Public Service Company, Cholla Power Plant – Joseph City, AZ

1.0 INTRODUCTION

This Technical Memorandum documents the information gathered prior to and during an inspection of seepage intercept system operations at the Fly Ash Pond (FAP), located at the Arizona Public Service Company (APS) Cholla Power Plant in Navajo County, Arizona. The primary objective of this effort was to understand the operational capacity of the existing seepage collection network to evaluate how the existing systems could be incorporated into a future remedy for corrective action and to assist in the selection of design changes to the system.

The following sections present a summary and results of the inspection of operations for the FAP seepage intercept systems performed during a site visit in late June 2021.

2.0 BACKGROUND

There are two seepage intercept systems associated with the FAP: the Geronimo Seepage Intercept System and the Hunt Seepage Intercept System. These systems were originally installed in the early 1990s in the vicinity of the base of the FAP, with Geronimo north of the I-40 Interstate (Figure 1) and Hunt south of the I-40 Interstate (Figure 2). Each system consists of a drainage trench or trenches connecting to collection sumps and shallow extraction well(s) all pumping to a common header system. The drainage trenches are constructed of non-woven geotextile wrapped around drainage rock and contain a 4-inch (in) perforated high-density polyethylene (HDPE) pipe running along the bottom of each trench. The trench system diverts captured seepage water to the collection sumps. Each trench was designed up to 4 to 6 feet (ft) deep and covered with a minimum of 6 inches of native soil cover.

The Geronimo Seepage Intercept System originally consisted of two extraction wells that are approximately 40 ft deep (Geronimo A [GSX-1] and B [GSX-2]) and two shallow dewatering sumps approximately 10 ft deep (Geronimo C [GSX-3] and D [GSX-4]). The wells and the sumps are screened in the alluvium. The length of the Geronimo seepage trenches are approximately 350 ft to Sump C and 200 ft to Sump D (Figure 1).

4600 East Washington Street, Suite 600
Phoenix, Arizona 85034
Tel (602) 733-6000
Fax (602) 733-6100
www.woodplc.com

Attachment B contains the system drawings including the piping and instrumentation diagram (P&ID) and general layout of the original systems.

In the past, flow from the Geronimo Seepage Intercept System was collected and pumped back up into the FAP; however, collected seepage water is currently returned to the plant via a valved connection to a larger (estimated size of 6 in) pipe via gravity. The connection into the FAP is still available; however, with the elevation difference, the pipe and opening at the top acts as an air break to allow gravity flow to the plant when the valve to the plant is open (current operating conditions).

At the time of the site visit, the two extraction wells had been removed and abandoned and a single extraction well had been installed, but not equipped as a replacement (GSX-1R).

The Hunt Seepage Intercept System is comprised of a shallow seepage intercept trench that discharges to a dewatering sump (Hunt A [HSX-1]) that was dry at the time of the site visit, and an extraction well (Hunt B [HSX-2]). The length of the Hunt seepage trench is approximately 460 ft long (Figure 2).

There are two flow meters (propeller or turbine-style) that are installed on piping that receives flow from the Geronimo and Hunt seepage systems, both located north of I-40 on the discharge piping that collects the FAP Seepage flows and returns them to the Plant. One of the flow meters is located on the piping that collects flow from just the Hunt portion of the system (Hunt A and B). The second flow meter is located on the piping that collects flow from the entire system including both the Hunt portion (Hunt A and B) and the Geronimo portion (Geronimo C and D).

The average pumping rate of the Hunt and Geronimo Seepage Intercept Systems over the past five years ranges from near zero to 20 gallons per minute (gpm) based on the shared flow meter that measures flow for both systems, although there is some evidence that the existing flow meters are not always recording accurate flows. The average pumping rate from the Geronimo Seepage Intercept System has declined concurrent with recent efforts to promote decreases in the water level elevation at the FAP.

3.0 INSPECTION SUMMARY

On June 23-25, 2021, Wood personnel conducted a site visit to inspect each seepage intercept system and to conduct basic operational testing. Each accessible system was tested for operation pressure, flow rates, dead head pressure and pump control operations. The approximate flow rate for each pump (when not discharging to the collection system) was evaluated by isolating flow with wellhead valving to a sample port and recording the duration of time required to fill a 5-gallon bucket. Several tests were completed and the nearest whole number was used for the flow rate calculation.

To collect flow meter readings from the Geronimo sumps or wells all other systems were turned off and the Geronimo sump specified was operated by itself. These flow readings were collected from the flow meter that is on piping that collects flow from the entire system.

A flow meter reading was recorded at each system as appropriate. During the Hunt Well B reading the instantaneous flow reading at the meter declined rapidly during the short manual flow test, then recovered to the recorded number in Table 1 (10.5 gpm). The flow meter reading was based on the instantaneous flow reading setting (in gpm) from the display at each flow meter. The depth measurements provided (Table 1) are water level as measured in feet below top-of-vault or casing, as appropriate. Operational measurements collected from each seepage intercept system during the site visit are summarized in Table 1 for systems at the FAP. Attachment A presents a photograph log that shows the general condition of the inspected equipment.

Table 1: Geronimo and Hunt Intercept System Operations Measurements

Well/ Sump Name	Dead Head	Sole System Operation		Whole System Operation		Total Sump/ Well Depth	Bucket Test Flow Rate	Flow Meter Reading[1]
	psi	psi	DTW ft	psi	DTW ft	ft	gpm	gpm
GSX-3 / C	112	90 88	8.1 9.0	94 89	>8.75 w/ GSX-4 on	11.3	30	18
GSX-4 / D	98	78	<9.55	92	<9.55 w/ GSX-3 on	not measured	30	14.5
HSX-1[2] /A	NA	NA	NA	NA	NA	NA	NA	NA
HSX-2[3] / B	82	22	NA	NA	NA	not measured	13	10.5

1. Flow meter reading corresponds to isolated operate of the noted well/sump
2. Water level was clearly below the level of the pump intake, so could not test.
3. Flow meter reading was recorded from at the Hunt-only meter.

NA not applicable
psi pounds per square inch
DTW distance to water, as measured from sump top

The operation function testing at Geronimo C/GSX-3 revealed that the pump was able to turn on in AUTO initially; however, the pump control probes did not appear to be functioning when a test was performed with both probes immersed in a filled bucket. After observing the pump did not turn on at a later point when visually, the water level should have triggered the auto function, the probes were removed from the sump and fully immersed in the bucket to verify operation. The probes in this condition did not turn the pump on when the control panel HOA switch was set to AUTO. These probes are located approximately at 8.2 ft (ON probe) and 9.3 ft (OFF probe) below top of vault cover. It appears that the OFF level probe could be set lower, but the wiring was tangled in such a way that it is located at 1.1 ft below ON level probe. The wiring was untangled when reinstalling the probes in the well, but the OFF level probe cord was taped to the ON level cord to match the original levels.

4.0 RECOMMENDATIONS

Based on the results of the inspection documented herein, the following system changes are recommended:

- The design of the seepage intercept systems limits assessment of the individual system operations. Ideally, each seepage intercept system should be configured with a water level monitoring port/sounding tube (as applicable) on sumps and extraction wells, an elapsed time meter on the pump(s), a flow meter on the discharge piping for each pump, a pressure indicator, a sample port, and the ability to direct flow to a discharge location for testing.

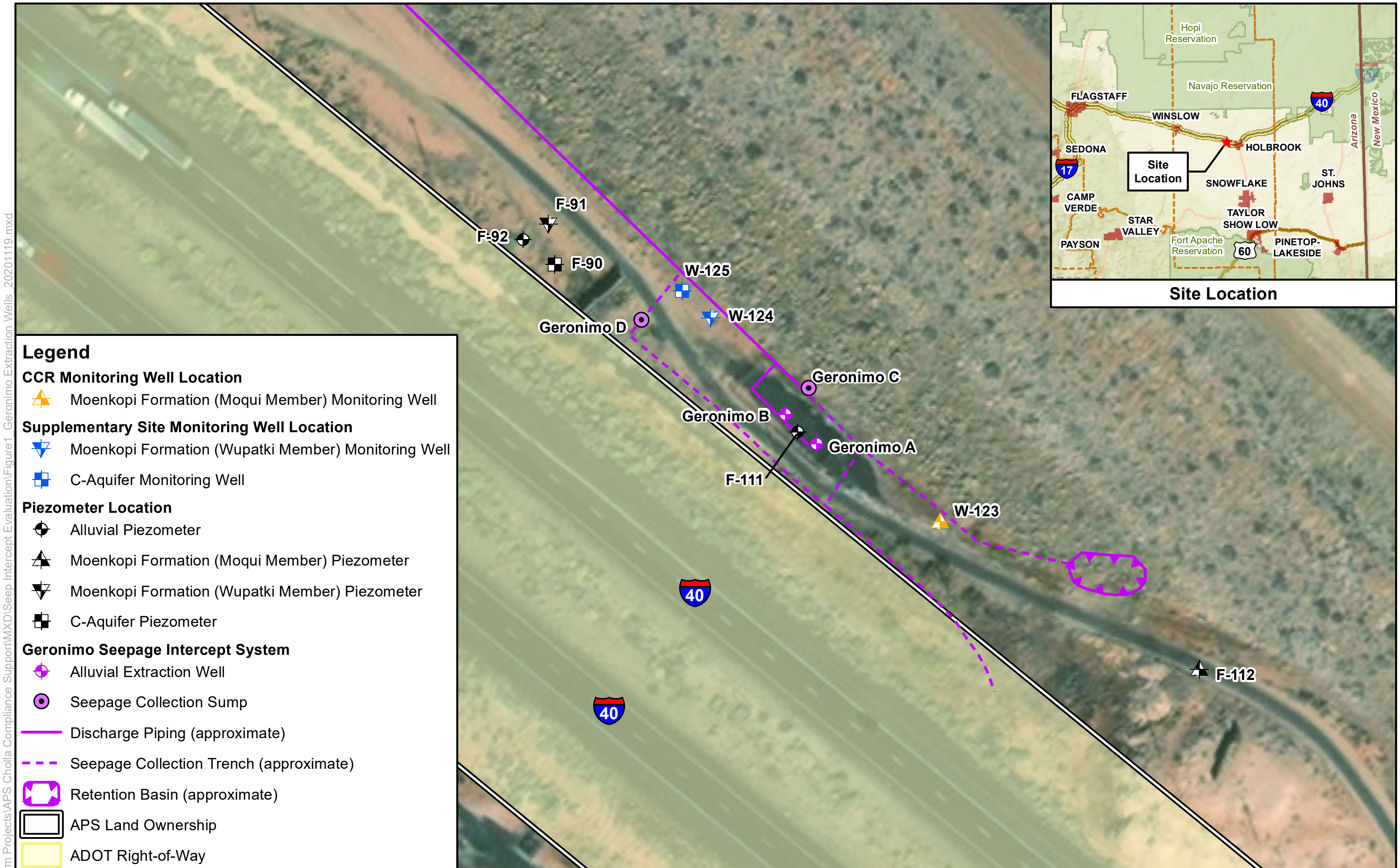
- The Hunt sump water levels are below the pump intake and Plant staff indicate that there has been no water in this sump for quite a long time. It is recommended that the Hunt drainage trench operations be reviewed to assess if the cause of the lack of water from the drainage trench is clogging of the system. A rebuild of the drainage trench may be necessary to make it function as originally intended.

ATTACHMENTS

Attachment A – Photograph Log

Attachment B – System Drawings

FIGURES



0 50 100 200
Feet

Job No. 14-2018-2040
PM: MH
Date: 11/24/2020
Scale: 1" = 100'

N

The map shown here has been created with all due and reasonable care and is strictly for use with Wood Environment & Infrastructure Solutions, Inc. Project Number 14-2018-2040. This map has not been certified by a licensed land surveyor, and any third party use of this map comes without warranties of any kind. Wood Environment & Infrastructure Solutions, Inc. assumes no liability, direct or indirect, whatsoever for any such third party or unintended use.

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Geronimo Seepage Intercept System Map

FIGURE
1

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Seep Intercept Evaluation\Figure1_Geronimo Extraction Wells_20201119.mxd

Legend

Supplementary Site Monitoring Well Location
- Moenkopi Formation (Moqui Member) Monitoring Well

Seepage Intercept System
- Moenkopi Formation (Moqui Member) Extraction Well
- Seepage Collection Sump
- Discharge Piping (approximate)
- Seepage Collection Trench (approximate)
- APS Land Ownership
- ADOT Right-of-Way

0 50 100 200
Feet

Job No.	14-2018-2040
PM:	MH
Date:	11/24/2020
Scale:	1" = 100'

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Hunt Seepage Intercept System Map

FIGURE
2

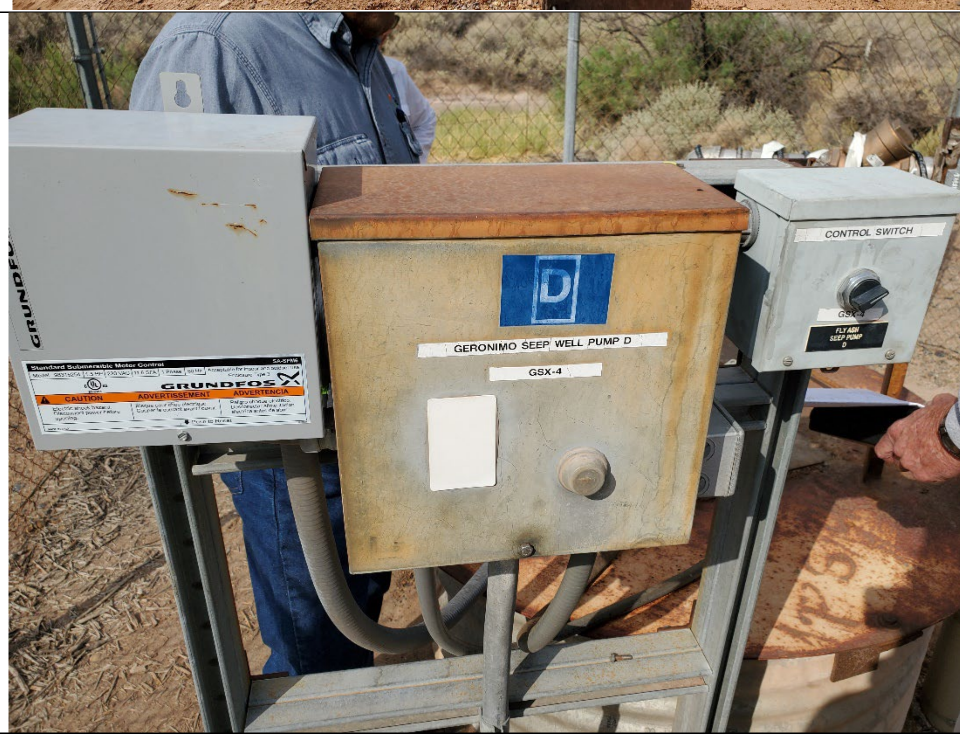
wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\Seep Intercept Evaluation\Figure2_HuntSeepageInterceptSystem_20201123.mxd

Attachment A

Photograph Log

Photograph Log

Photograph 1. View of Geronimo Seep area looking east towards Geronimo C sump.	
Photograph 2. Geronimo D control panel	

Photograph Log

Photograph 3. Geronimo D piping at the sump.	
Photograph 4. Geronimo C control panel.	

Photograph Log

Photograph 5. Geronimo C Sump piping	
Photograph 6. Hunt A control panel	

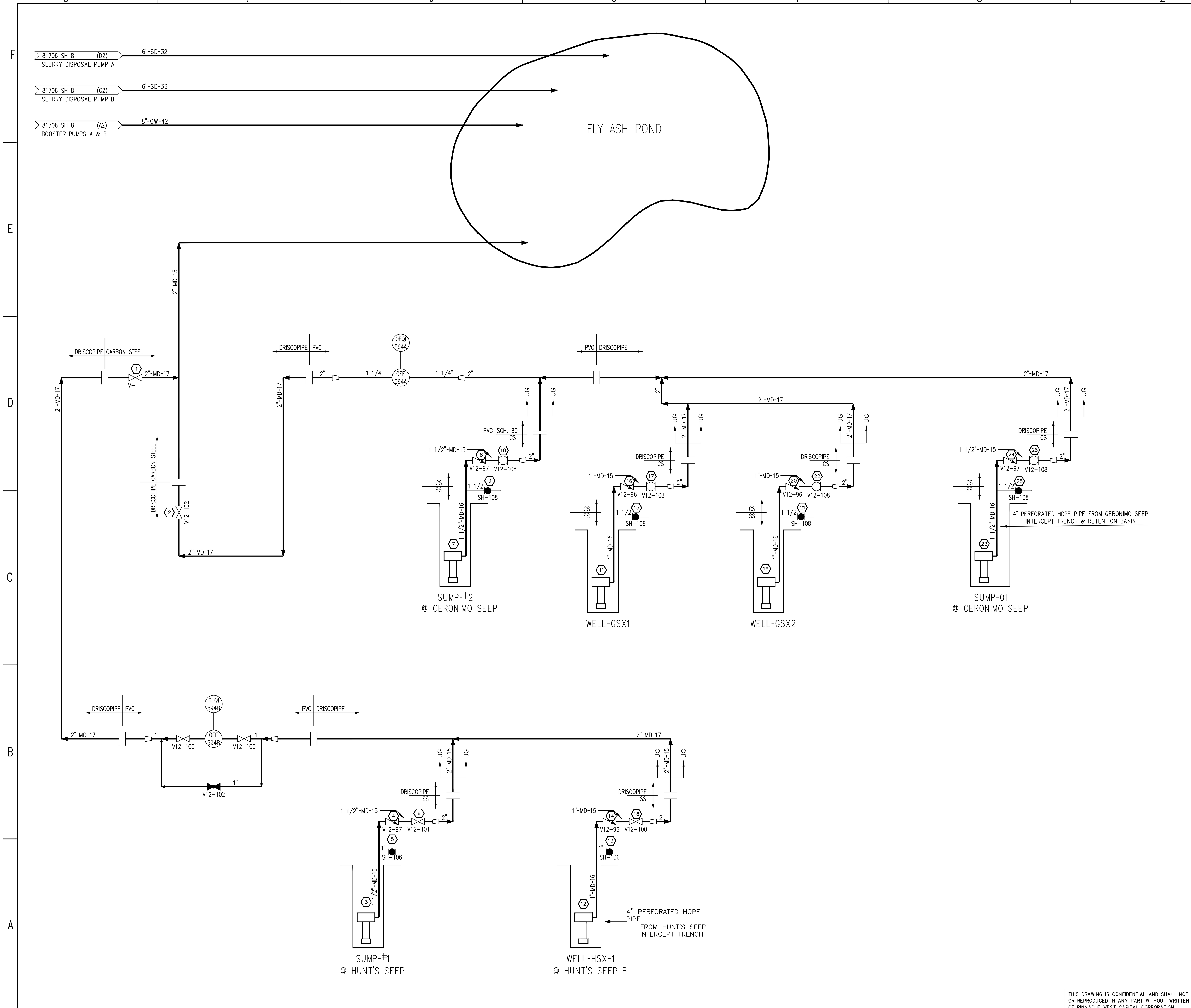
Photograph 7. Hunt A sump piping.	
Photograph 8. Hunt B well pump control panel.	

Photograph Log

Photograph 9. Hunt B pump piping and control panel.	

Attachment B

System Drawings



NOTES:

1. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND & GENERAL NOTES, SEE DRAWING 76000.
2. COMMON DISCHARGE HEADER PIPE (MD-17) IS PHILLIPS DRISCOPIPE HIGH DENSITY POLYETHYLENE SERIES 1000 SDR 11, PER ASTM D-1248.
3. CS = CARBON STEEL
   SS = STAINLESS STEEL

REFERENCE DRAWINGS:

LIST OF DRAWINGS: 166515
VALVE & SPECIALTY LIST: 166519
INSTRUMENT LIST: 166520

	UNID EQUIPMENT NUMBER
1	CH00CM-DM-FI-VLV-20
2	CH00CM-DM-FI-VLV-19
3	CH00CM-DM-FI-PMP-02
4	CH00CM-DM-FI-VLV-14
5	CH00CM-DM-FI-VLV-02
6	CH00CM-DM-FI-VLV-08
7	CH00CM-DM-FI-PMP-06
8	CH00CM-DM-FI-VLV-06
9	CH00CM-DM-FI-VLV-18
10	CH00CM-DM-FI-VLV-12
11	CH00CM-DM-FI-PMP-05
12	CH00CM-DM-FI-PMP-01
13	CH00CM-DM-FI-VLV-13
14	CH00CM-DM-FI-VLV-01
15	CH00CM-DM-FI-VLV-17
16	CH00CM-DM-FI-VLV-05
17	CH00CM-DM-FI-VLV-11
18	CH00CM-DM-FI-VLV-07
19	CH00CM-DM-FI-PMP-04
20	CH00CM-DM-FI-VLV-04
21	CH00CM-DM-FI-VLV-16
22	CH00CM-DM-FI-VLV-10
23	CH00CM-DM-FI-PMP-03
24	CH00CM-DM-FI-VLV-03
25	CH00CM-DM-FI-VLV-15
26	CH00CM-DM-FI-VLV-09

9

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
9	9/15/13	ADDED UNID EQUIPMENT NUMBERS	SB	RW		SL	RC	CH705477
8	9/23/08	ADDED SLURRY LINES TO POND	M.V.	N/A	JSW	N/A	WAF	C745938
7	9/6/07	P&ID INSTRUMENT WALKDOWN	MW	LEA	PA			C710718
6	1-11-06	AS-BUILT PER CHOLLA P & I D PROJECT	WBH					30-6901
5	1-8-96	ADD HUNT'S SEEP INTERCEPT	PRATT	TK			CAM	30-9147
4	6-12-95	ADD SUMP 2 @ GERONIMO SEEP	PRATT	TK			CAM	62-9072
3	1-30-94	GEN. REV. PER AS-BUILTS	PRATT	RJP	TK		CAM	62-9072
2	5-24-93	MODIFY FLOW METER NUMBERS	PRATT	TK			DWS	62-9072
1	4-28-93	REVISED PER CONSTRUCTABILITY REVIEW COMMENTS	PSS	TK			DWS	62-9072

CHOLLA COMMON
FLY ASH POND SEEPAGE INTERCEPT SYSTEM
P & I D

SCALE NONE

DATE 3-10-93

DWN AGS

CHD

EXD

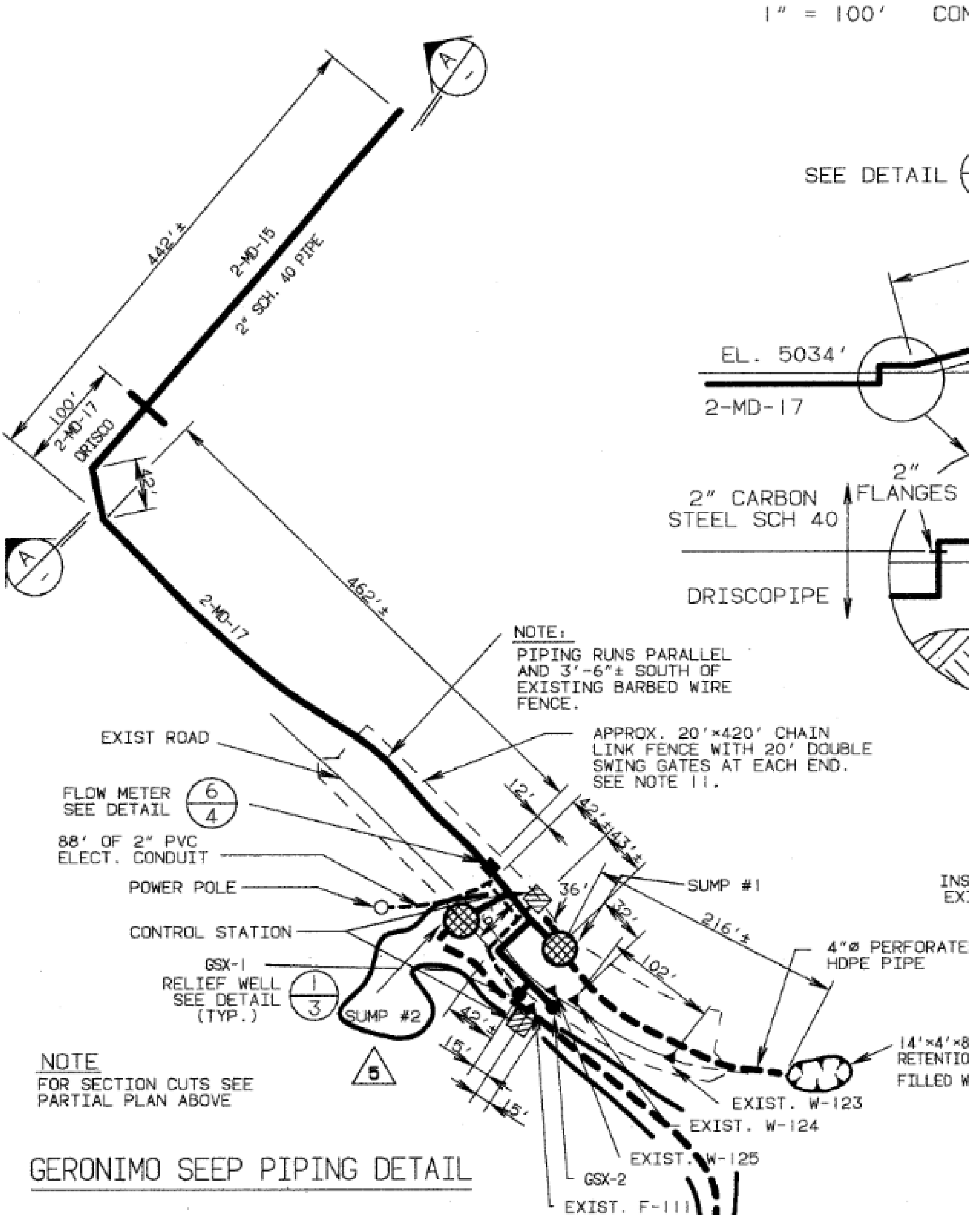
RVWD D. STEWART

APPROVED
CARL MARANO/DWS
ENGINEERING SUPERVISOR

W A 62-9072

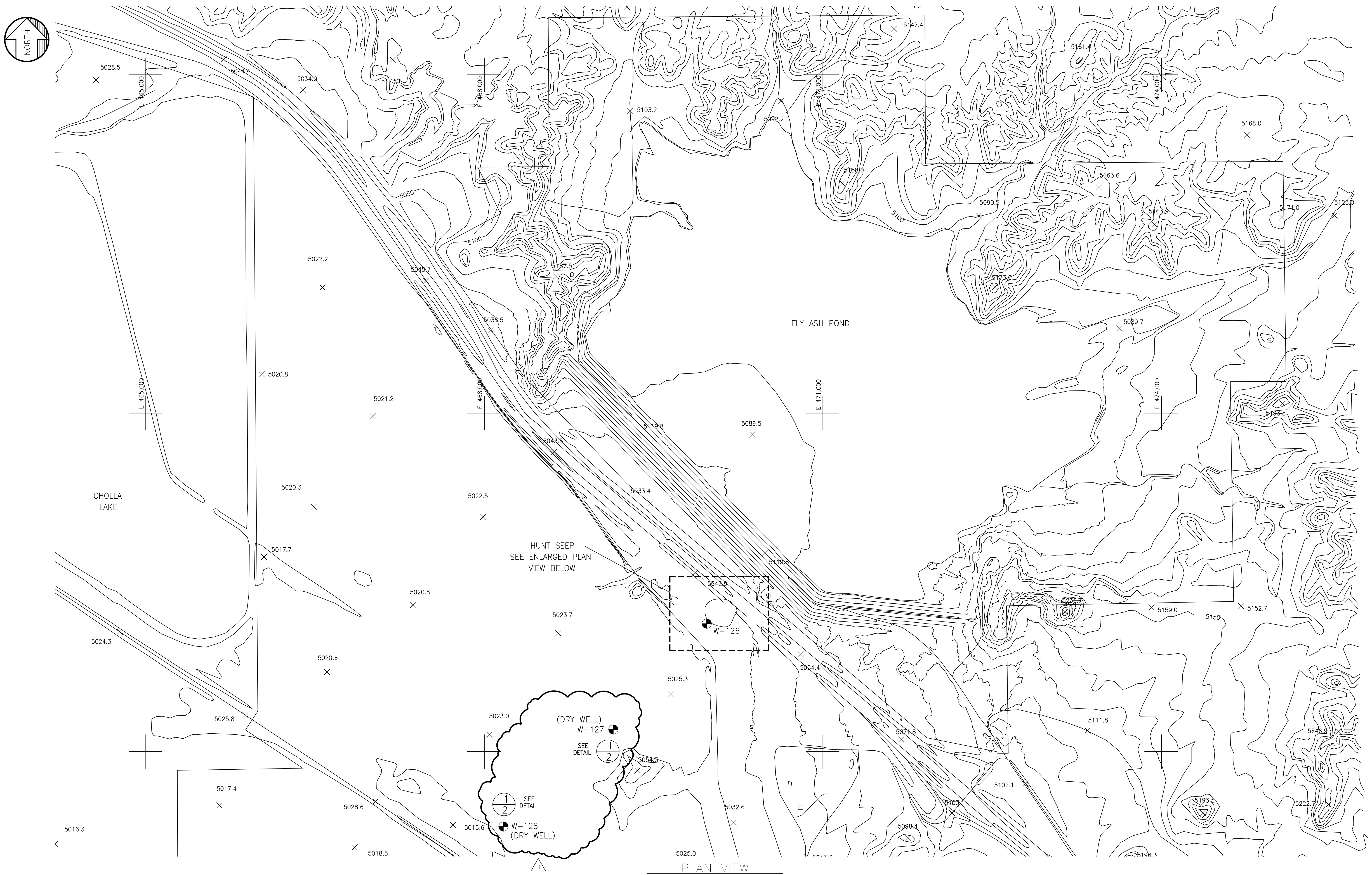
UNIT	DISC	TYPE	SYS	NUMBER	SHEET
CC	M	02	ADS	81706	33

DRAWING: P:\Plant O&M Active\ALL PLANTS\P&ID-UNID\Plants\Cholla\Returned Drawings\10-3-13\CH-02-Completed\CC-M-02-ADS-81706-33.dwg

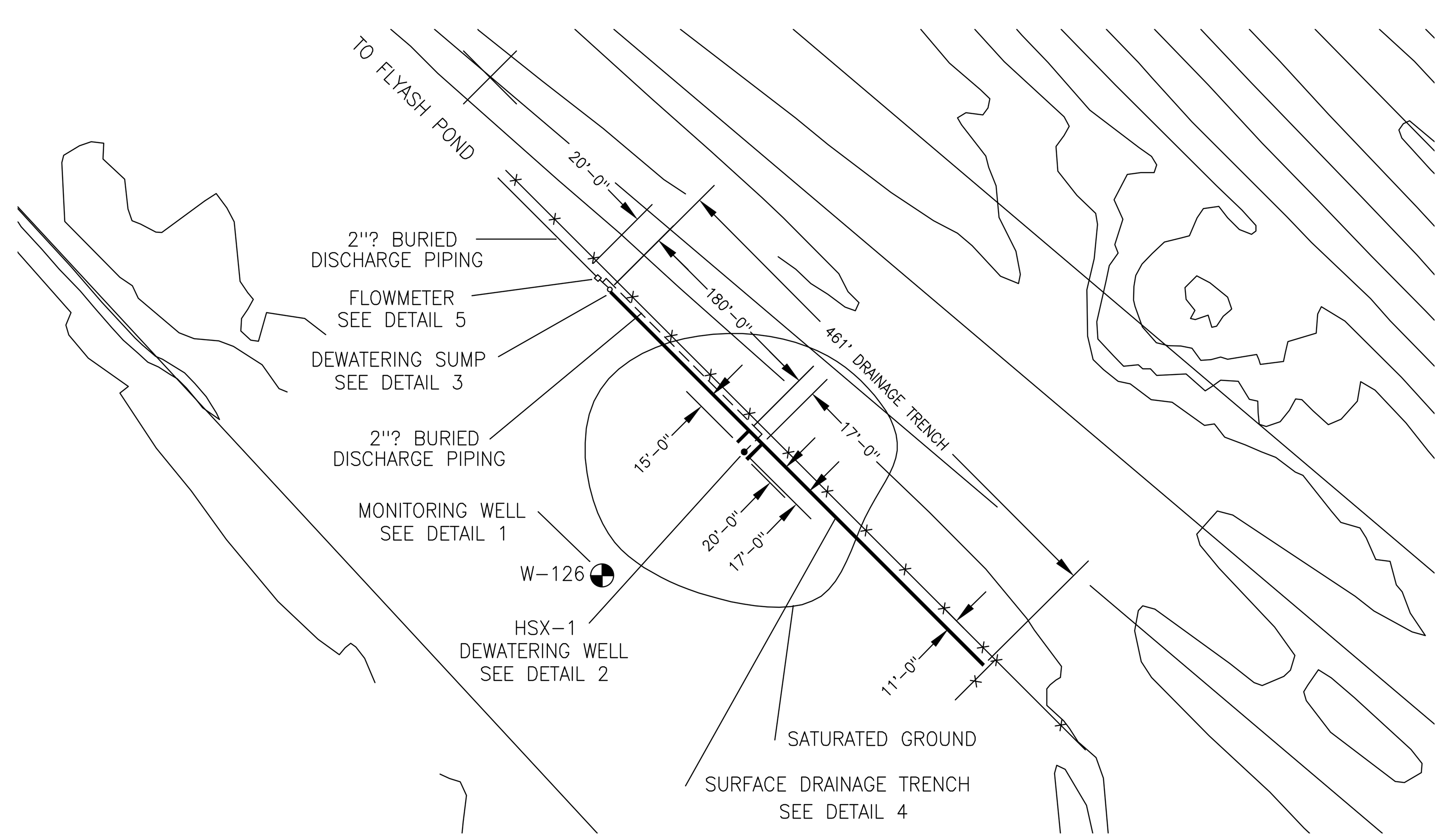


NOTE
FOR SECTION CUTS SEE PARTIAL PLAN ABOVE

GERONIMO SEEP PIPING DETAIL



PLAN VIEW



HUNT SEEP
ENLARGED PLAN VIEW
SCALE: 1"=100'

NOTES:

1. HUNT SEEP FILLED W/ DRAINAGE ROCK TO BRING LEVEL W/ SURROUNDING GRADE.

2. DEWATERING WELL AND DEWATERING SUMP ARE ENCLOSED BY 8' CHAINLINK FENCE WITH LOCKING GATES.

3. DRAWING REFLECTS ASBUILT CONDITIONS.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
1	6-23-97	'AS-BUILT' - JAN. 1996	PSS					30-6876

CHOLLA S.E.S. COMMON
HUNT SEEP
SEEPAGE INTERCEPT SYSTEM
PLAN VIEW

ARIZONA PUBLIC SERVICE COMPANY

SCALE AS NOTED DATE 8-31-95

DWN SMITHERS
CHD B. GIFFORD
EXD
APVD NICK SVOR, ENGINEERING SUPERVISOR
RVWD
W A 30-9147
DRAWING NO. G-143718
SHEET OF 2

AAAAAFPK.DWG

THIS IS AN AUTOCAD DRAWING, DO NOT MODIFY MANUALLY.

Appendix M

Operations Inspection of the Bottom Ash Pond Seepage Intercept Systems

Technical Memorandum

To:	Arizona Public Service Company	**Project No:**	14-2018-2040
By:	Maren Henley, PE	**Reviewed by:**	Andrea Kagie-Hay, PE Becky Weaver, PE
Tel:	(602) 733-6000	**CC:**	File
Date:	January 31, 2022		

Re: **OPERATIONS INSPECTION OF THE BOTTOM ASH POND SEEPAGE INTERCEPT SYSTEMS**
Arizona Public Service Company Cholla Power Plant – Joseph City, AZ

1.0 INTRODUCTION

This Technical Memorandum documents the information gathered prior to and during inspections of seepage intercept system operations at the Bottom Ash Pond (BAP), located at the Arizona Public Service Company (APS) Cholla Power Plant in Navajo County, Arizona. The primary objective of this effort was to understand the configuration and operational capacity of the existing network of seepage intercept systems in order to evaluate whether the existing systems could be incorporated into a future remedy for corrective action at the BAP.

The following sections present a summary of available background information for the systems involved in seepage collection, documentation of data inspection findings, and recommendations for next steps.

2.0 BACKGROUND

There are four seepage intercept systems associated with the BAP (Figure 1): the Toe Drain Area sump and drainage trench, Tanner Wash Seep sump and drainage trench, Petroglyph Seep sump and drainage trench, and the TWX Area extraction wells (TWX-3 to 5, TWX-6R, 7R, 8R and TWX-9 to 10), also known as B-226 seep area or B-226 Seepage Intercept System. This section summarizes Wood's understanding of each system based on APS design drawings included as Attachment A, and well registration records archived with the Arizona Department of Water Resources (ADWR) Wells 55 Registry (Attachment B) and direct observations. The APS record drawings include subsurface components of these systems that Wood was unable to verify, and are described below based on those existing system record drawings. The Toe Drain Area intercept system discharges into the BAP with its own discharge piping. TWX Area, Tanner Wash Seep and Petroglyph Seep intercept systems are all connected to the same piping that discharges into the BAP.

2.1 Toe Drain Area Intercept System

The Toe Drain Seep Intercept System was constructed in the late 1970s and is located on the western edge of the BAP dam. It consists of an approximately 6-feet (ft) wide by 8-ft deep intercept trench connected to a collection sump. The intercept trench follows the natural grade and includes a 4-ft diameter perforated

4600 East Washington Street, Suite 600
Phoenix, Arizona 85034
Tel (602) 733-6000
Fax (602) 733-6100
www.woodplc.com

and asphalt-coated corrugated metal pipe (CMP), which is surrounded by drainage rock. Filter cloth envelops the drainage rock on all sides. The upper portion of the trench (above the filter cloth) is filled with approximately 2 ft of pit run gravel. The sump is 9 ft in diameter and built to a total depth of 25 ft below ground surface (bgs) and is made from asphalt-coated CMP. The bottom 1 ft of the sump has concrete fill. Two submersible pumps are installed in the sump operating in parallel, and they pump the water using level control logic through check valves, manual butterfly valves, and a combined flow totalizer up the north face of the dam to discharge into the BAP. There is also a drain line with a solenoid valve located between the two pump lines. The discharge piping downstream of the flow totalizer is constructed of 4-inch (in) diameter polyvinyl chloride (PVC) pipe that transitions to 4-in diameter steel pipe on the dam. Note that the available plans (Attachment A) show that this pipe is carbon steel; however, a field inspection shows that it transitions to PVC approximately 2-3 feet after the flow meter. The discharge piping drains water remaining in the pipe that does not discharge into the BAP back into the sump after the pumps shut off to provide freeze protection for the piping.

2.2 Tanner Wash Seep and Petroglyph Seep Intercept System

The Tanner Wash Seep and Petroglyph Seep intercept systems were constructed in the early 1990s and are located along the eastern edge of the BAP dam, each consisting of a drainage trench (i.e., French drain) connected to a collection sump (Figure 1). The drainage trenches are constructed of non-woven geotextile wrapped around drainage rock and contain a 4-in perforated high-density polyethylene (HDPE) pipe running along the bottom of the trench, which diverts the captured seepage water to the collection sumps. Each trench is covered with 6 in of native soil with a depth ranging from 4 to 6 ft. The length of the Tanner Wash Seep drainage trench is approximately 400 ft at a 1% slope gradient, and the invert depth of drainage pipe at the collection sump is at 6 ft bgs. The length of the Petroglyph Seep drainage trench is approximately 300 ft at a 1% slope and the approximate invert depth of the drainage pipe at the sump is 5.5 ft bgs.

The Tanner Wash Seep and Petroglyph Seep collection sumps are each constructed of a 4-ft diameter galvanized CMP; the bottom 4 ft of the CMP at each sump is perforated and the base of the sump is comprised of 6 in of concrete fill. The total depth of the Tanner Wash Sump is 10.5 ft and the Petroglyph Sump is 10 ft deep. The sumps contain a submersible pump or pumps that are set to operate when the water level in the sump reaches 4 ft above the base of the sump and shut off when the water level in the sump reaches 3 ft above the base of the sump.

Two submersible pumps plumbed in parallel and a single pump (Grundfos Model No. 25S10-7) are installed in the Tanner Wash and Petroglyph sumps, respectively. The pumps are connected to 1.5-in stainless steel discharge piping that transitions to carbon steel piping at the surface. Surface completions include a check valve and a manual gate valve for flow control. Discharge piping downstream of the surface completions transitions below grade to 2-in Drisco HDPE piping that is routed through a flow metering enclosure and then combines with other collection system flows. Downstream of the confluence with the Tanner Wash, TWX, and Petroglyph systems, the 2-in below-grade discharge piping transitions to 3-in Drisco HDPE pipe near the Petroglyph sump. The 3-in Drisco pipe then directs water along the southern edge of the BAP dam to an above-grade 3-in carbon steel pipe covered in insulation, which runs north up the face of the dam and discharges into the BAP.

2.3 TWX Area Extraction Wells

The TWX Area extraction wells and associated seepage collection system were installed in the early 1990s and are located along the eastern BAP dam north of the Tanner Wash seep. This area contains 8 dewatering wells designated TWX-3 to 5, TWX-6R, 7R, 8R and TWX-9 to 10 (Figure 1). Each extraction well pump has a dedicated pump control panel, labeled from A through H, corresponding to TWX wells labeled 3-10 (Figure 1), although the replacement wells are not labeled with the R designator. The ADWR well registry files for these wells (included as Attachment B and summarized in Table 1, attached) indicate that originally 13 borings were drilled, but 3 did not have extraction wells installed at those borings. The locations were initially identified as TWX-1 through TWX-13 for the borings with extraction wells installed in TWX-3 through 5, and TWX-9 and TWX-10. Borings TWX-6, TWX-7, and TWX-8 were drilled to depths ranging from 12 to 21 ft into competent bedrock before being abandoned; the reason the borings were abandoned is unknown. However, replacement wells were installed (TWX-6R, TWX-7R, and TWX-8R) near those locations. With the exception of TWX-10, the extraction wells were installed to 40 ft bgs and screened from 20 to 40 ft bgs. TSX-10 was installed to 35 ft bgs and screened from 20 to 35 ft bgs.

The extraction wells are equipped with submersible pumps (Grundfos Model No. 5S03-9) that discharge to 1-in stainless steel discharge piping inside the wells and transition to 1-in carbon steel piping at the surface. Surface completions include a check valve and a manual gate valve for flow control. Discharge piping downstream of the surface completions transitions below grade to 2-in Drisco HDPE piping that is routed to a common header and a system flow metering enclosure downstream of TWX-3. Discharge piping from the TWX area system then runs southwest along the road before connecting to the 3-in Drisco pipe near the Petroglyph sump, which leads to the 3-in PVC pipe discharging to the BAP. The drawings also show a 78-ft modified drainage trench near TWX-3 and indicate that TWX-3 receives water from the drainage trench through a hole in the well casing at approximately 4 ft bgs.

3.0 INSPECTION SUMMARY

On December 2 and 3, 2019, Wood conducted a site visit to inspect each seepage intercept system site. Pressure transducers were deployed in the Petroglyph sump, the Toe Drain sump, and piezometer B-228. A description of the inspection findings at each seepage collection system is provided below. Figures 2 through 6 depict the collected transducer data. Attachment C presents a photograph log that shows the general condition of the inspected equipment. A second inspection visit was conducted on June 23-25, 2021 to test the pump and controls operation at each site. A summary of the results from this visit is compiled in Table 2 and Table 3.

Table 2: BAP Operations Measurements, June 2021

Location	Well/Sump Name	Dead Head (psi)	Operating by self (psi)	Sump Water Depth (BTT[3])	Flow Meter Reading (gpm)
Toe Drain[1]	Pump A	NA	17 @ 5 min 34 @ 10 min	4.3 to 4.6 @ 10 mins pumping	10-15 instantaneous 30.5 @ 100-gal test[5]
	Pump B	NA[2]	34 @ 5 min 34 @ 10 min	NA	10-15 instantaneous 20.8 @ 100-gal test[5]
Tanner Wash	Pump A	NA	NA	NA	15.3
	Pump B	NA	NA	NA	15.2
Petroglyph	Petroglyph	98	78	6.27/7.45[4]	19.7

1. Flow rate with both pumps operating is 68 gpm as based on 100-gal test (see note 5).
2. 3-inch discharge valves inoperable.
3. Below top of tank (BTT) is measured as feet below the lid of the sump tank.
4. Water depth reading before testing/after testing.
5. Flow rate determined by time taken to reach 100 gallons as measured by the flow meter totalizer.

psi pounds per square inch
gpm gallons per minute
min minute
NA not applicable

3.1 Toe Drain Sump

The Toe Drain sump is equipped with two pumps and one control box. The controls are in one large control panel. These pumps have an alternating selector switch, which activates each time there is a "pump down cycle" and switches the lead and lag pumps to ensure the pumps alternate to balance run times. As noted previously, once the pumps shut off, the water remaining in the discharge piping drains back into the sump via a solenoid valve operation.

Figure 4 depicts water level data collected from the Toe Drain Sump from December 3, 2019 to January 8, 2020. The water level data indicate the Toe Drain Sump pumps were operational during this time frame. Typically, the lead pump starts when the sump water level reaches 5.8 ft bgs and shuts off when the sump water level reaches 8.2 ft bgs, though on certain occasions the pump did not turn on until the sump water level reached depths between 3.5 and 5 ft bgs. Figure 5 depicts a detailed view of the Toe Drain Sump water levels collected on January 4, 2020. When a pump is not operating, the sump water level rises approximately 2.12 ft in 375 minutes (6.25 hours). A sump diameter of 9 ft equates to an approximate average flow rate for seepage water entering the Toe Drain Sump of 2.7 gpm (i.e., the water-level data indicate that the intercept trench connected to the Toe Drain Sump captured approximately 2.7 gpm during the time of measurements). However, due to the drain back from the BAP discharge pipe for freeze protection, the accuracy of this value is uncertain. The flow meter was observed to turn backwards when the drain back occurred at the end of the pump cycle, which makes the totalizer function on the meter challenging to interpret. This piping and/or meter location could be modified to bypass the flow meter on the return flow for the drain operation.

During the June 2021 inspection, when the Auto Start initiated for Pump A, the water level dropped 4 in after ten minutes. A dead head pressure could not be obtained due to an inoperable gate valve on both pumps' discharge lines. The pressure at startup was 0 psi while the discharge line up to the BAP was filling with water prior to discharging into the BAP, and then slowly increased to 34 psig after 10 minutes.

During the testing of pump operations after the pumps had shut off, the volume of water that drained back from the discharge line increased the water level enough to start Pump B in Auto. The "Lag" pump only runs if a high water level probe is reached while the "Lead" pump is operating. It appears that one or both of the check valves in the common discharge piping are not fully functional as turbulence was observed in the sump during pump operation. There was an increase in sump water level during constant operation of Pump B. The rise in sump water level was only observed during Pump B solo operation, which may indicate that the check valve on Pump A is not working properly and is allowing water to recycle back into the sump.

3.2 Tanner Wash Sump

The Tanner Wash sump contains two submersible pumps that are plumbed to a single manifold and equipped with a flow meter. The flow meter is an inline impeller flow meter (Omni Sensus) installed in a separate dry vault within the fenced enclosure. Previously, there was an older Omega style flow meter installed with an indicator located near the top of the meter vault; however, the meter has been removed, leaving the indicator abandoned in place. The control panel has two control boxes, one for each pump. The pumps were set to the auto run position and were in working order during both of Wood's inspection. An unlabeled enclosure located between the pump control panels houses the MultiRanger 200 ultrasonic level control readout/controller. The pumps are controlled by this device to turn on and off based on levels measured by the ultrasonic device. The ultrasonic device is installed underneath the lid in the sump.

During the June 2021 visit, Pump "A" was able to run at 15.3 gallons per minute (gpm) and pump "B" was able to run at 15.2 gpm (Table 2), as measured by the flow meter. Each pump ran on its own; however, it is unknown if other systems sharing the discharge piping, such as those in the TWX area, were running at the same time that this test was conducted. The initial water level was 93 in below top of sump prior to operating any of the pumps. The sample port used 2-in fittings and Wood did not have the ability to connect to them either with a pressure gauge or hose and fittings. Therefore, Wood was unable to measure the pressure at this location nor perform a bucket test for flow measurement during the visit.

3.3 Petroglyph Sump

The Petroglyph Sump contains a submersible pump with Warrick level controls. The pump was operational during Wood's inspections. Figure 2 depicts water level data collected from the Petroglyph Sump from December 3, 2019 to January 8, 2020. The water level data indicate the Petroglyph Sump submersible pump was operational during this time frame. The pump starts when the sump water level reaches 8.4 ft bgs and shuts off when the sump water level reaches 9 ft bgs, This cycle takes approximately 10 minutes. Figure 3 depicts a detailed view of the Petroglyph Sump water levels collected on January 4, 2020. When the pump shuts off, the sump water level rises from 9 to 8.4 ft bgs in approximately 25 minutes. A sump diameter of 4 ft equates to an approximate average flow rate for seepage water entering the Petroglyph Sump of 2.3 gpm (i.e., the water-level data indicate that the intercept trench connected to the Petroglyph Sump captured an average of 2.3 gpm on that day).

The water level in the sump was at a level of 6.27 ft below the top of sump at the beginning of the inspection on June 25, 2021. A measurement of the height of the top of sump above the ground surface was not taken, thus comparison with the pump start/stops is not possible for the June 2021 data. With the pump in auto, the flow rate was 19.7 gpm as measured at the flow meter in instantaneous read mode. The dead head pressure was 98 psi at this site and the operating pressure was 78 psi. The water level in the sump after completion of the testing was 7.75 ft below the top of sump. It is unknown if any other systems were operating while this test was running.

3.4 TWX Area

The TWX Area consists of eight extraction wells inside a fenced compound (TWX-3 to 5, TWX-6R, 7R, 8R and TWX-9 to 10). During the June 2021 inspection, each pump was set to automatic operation, and with the exception of the pump for TWX-4, all pumps were working properly. The pump at TWX-4 did not run in auto, despite being set to off for 4 hours (assuming water levels rose sufficiently to reach the pump on setpoint during this time, as there is no way to observe the water level in the well); it also did not turn on when set to manual jog setting. The motor was able to be started at both Well TWX-7R and Well TWX-9, and flow could be observed at the sample ports; however, no flow was measured at the flow meter when operating either of those wells. See notes in Table 3 for all wells.

The water level data collected from the B-228 piezometer are depicted as Figure 6. This piezometer is located downgradient of the TWX extraction wells at a distance of approximately 20 ft from TWX-3 and is screened from 20 to 40 ft bgs. It would be expected that water levels in this piezometer would be indicative of the TWX Area system groundwater level trends. A noticeable increase in water levels occurred in this piezometer from December 13 to December 27, 2019. The sudden increase and decline may be related to the operational schedule of one or more of the TWX Area extraction wells.

The following table lists the flow rates and/or notes for each well as recorded on June 25, 2021.

Table 3: TWX Flow Measurements

Well	Pump Panel Label	Approx. Instantaneous Flow Rate (gpm)	Notes
TWX-03	A	22	NA
TWX-04	B	NA	Did not run in AUTO after being off for 4 hrs. Did not respond to manual JOG either. Further investigation indicated.
TWX-05	C	23	NA
TWX-06R	D	19	NA
TWX-07R	E	NA	The pump started but stopped by the time meter vault was reached for observation. On second attempt it stopped in 52 seconds. This indicates that the level control probes are likely too close together, resulting in frequent and short start/stop runs. This should be addressed, or pump will fail much sooner than desired. Verified pump was running and observed flow at sample port. Closed sample port and throttled discharge in an attempt to get the flow to

Well	Pump Panel Label	Approx. Instantaneous Flow Rate (gpm)	Notes
			the meter, but no flow was observed at the meter during operation of this pump. Further investigation required.
TWX-08R	F	18	NA
TWX-09	G	NA	No flow at meter, water was present at sample port.
TWX-10	H	NA	Pump did not start in AUTO and could not observe flow rate due to the presence of AUTO/JOG 2-position selector switches.

gpm gallons per minute
NA not applicable

4.0 CONCLUSIONS AND RECOMMENDATIONS

Based on the results of the inspections documented herein:

- The configuration of the seepage intercept systems limits assessment of the operations. Ideally, each seepage intercept system should be configured with a water level monitoring port/sounding tube (as applicable) on sumps and extraction wells (some installations do have a functioning port), an elapsed time meter on the pump(s), a flow meter on the discharge piping for each pump, a pressure indicator, a sample port, and the ability to direct flow to a discharge location for testing.
- TWX Area – TWX-4 pump should be pulled from the extraction well for inspection, as it does not seem to be in working order. The control panel for this well could also be the source of the issue and thus should be inspected for electrical problems. Further inspections and testing should be performed on the other pumps and control panels for pumps that either did not start in auto or where the flow meter did not register flow when operating.
- During the June 2021 investigation in the TWX Area there was only one person conducting the testing. Testing with one person is difficult due to the pump controls running with a JOG switch, which makes it very difficult or impossible to measure flows at each well head. It is recommended that further testing be conducted with at least 2 people able to operate the controls and measure individual flows to evaluate flows using the JOG switches at each well/pump.
- Once information regarding individual pump information can be monitored, pump data collected from the systems should be compiled and reviewed regularly to ascertain when the systems last extracted groundwater and if the pumps are functioning properly.
- The piping and meter at the Toe Drain should be modified so that the meter does not turn backwards during drain back of the discharge piping. It is recommended that bypass piping be installed at the flow meter to allow the drainback to bypass the meter. New check valves and isolation valves could be installed to allow the flow to bypass the meter on drainback but still measure flow when pumps are operating.

ATTACHMENTS

Attachment A – Seepage Intercept Design Drawings

Attachment B – ADWR Wells Registry Files

Attachment C – Photograph Log

wood.

TABLE

Table 1 - ADWR Well Registry Summary for TWX Area Extraction Wells

Well Name	ADWR Registry Number (55-)	Date Installed	Well Diameter (inches)	Well Depth (ft bgs)	Screened Interval (ft bgs)	Screen Slot Size (inches)	Depth to Water During Drilling (ft bgs)	Lithologies/Notes
TWX-1	539095	5/27/1993	5	40	20-40	0.01	5	0-20 ft bgs: sand; 20-40 ft bgs: clay
TWX-2	539096	5/28/1993	5	40	20-40	0.01	5	0-20 ft bgs: sand; 20-40 ft bgs: clay
TWX-3	539097	7/8/1993	5	40	20-40	0.01	5	0-20 ft bgs: sand; 20-40 ft bgs: clay
TWX-4	539098	7/8/1993	5	40	20-40	0.01	5	0-20 ft bgs: sand; 20-40 ft bgs: clay
TWX-5	539099	7/9/1993	5	40	20-40	0.01	5	0-20 ft bgs: sand; 20-40 ft bgs: clay
TWX-6*	539100	7/7/1993	N/A	20	N/A	N/A	5	Shallow bedrock - well not constructed, hole abandonedwith grout
TWX-7*	539101	7/7/1993	N/A	12	N/A	N/A	1	Shallow bedrock - well not constructed, hole abandonedwith grout
TWX-8*	539102	7/7/1993	N/A	21	N/A	N/A	5	Shallow bedrock - well not constructed, hole abandonedwith grout
TWX-9	539864	7/24/1993	5	40	20-40	0.02	25	0-25 ft bgs: silty clay/shale; 25-40 ft bgs: weathered sandstone
TWX-10	539863	7/25/1993	5	35	20-35	0.02	25	0-25 ft bgs: silty clay/shale; 25-35 ft bgs: weathered sandstone
TWX-11	539861	7/23/1993	5	40	20-40	0.02	25	0-25 ft bgs: silty clay/shale; 25-40 ft bgs: weathered sandstone
TWX-12	539862	7/22/1993	5	40	20-40	0.02	25	0-25 ft bgs: silty clay/shale; 25-40 ft bgs: weathered sandstone
TWX-13	539860	7/21/1993	5	40	20-40	0.02	25	0-25 ft bgs: silty clay/shale; 25-40 ft bgs: weathered sandstone

Abbreviations:

ADWR - Arizona Department of Water Resources
ft bgs - feet below ground surface
N/A - not applicable
*abandoned and replaced, no information on replacement wells available

FIGURES

Legend

CCR Monitoring Well Location

- Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

- Alluvial Monitoring Well
- Moenkopi Formation (Moqui Member) Monitoring Well
- Moenkopi Formation (Wupatki Member) Monitoring Well
- C-Aquifer Monitoring Well

Other Features

- Extraction Well
- Piezometer
- Sump
- Flow Meter
- Discharge Pipeline
- Seepage Intercept Drainage Trench
- Approximate Extent of CCR Unit
- APS Land Ownership

Notes:

TWX-1 Well Identification

Seepage intercept system locations are approximate and based on the following existing drawings:

- 81706-34 Cholla Common BAP Seepage Intercept System P & ID
- D-62671-1 Bottom Ash Dam Toe Drain System
- G-114438-2 BAP Area Plans & Details
- G-110544-1 BAP Area Piezometer-Monument Location Illustration
- 161394-2 BAP Topo Survey of East and West Decant Cells

0 100 200 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 1	**Bottom Ash Pond Seepage Intercept System Overview Map**

Job No.	1420182040
PM:	MBH
Date:	1/24/2022
Scale:	1"= 200'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\BAP Seepage System Overview\APS Cholla BAP Seepage Intercept System.aprx

Figure 2 - Petroglyph Sump Water Level Data

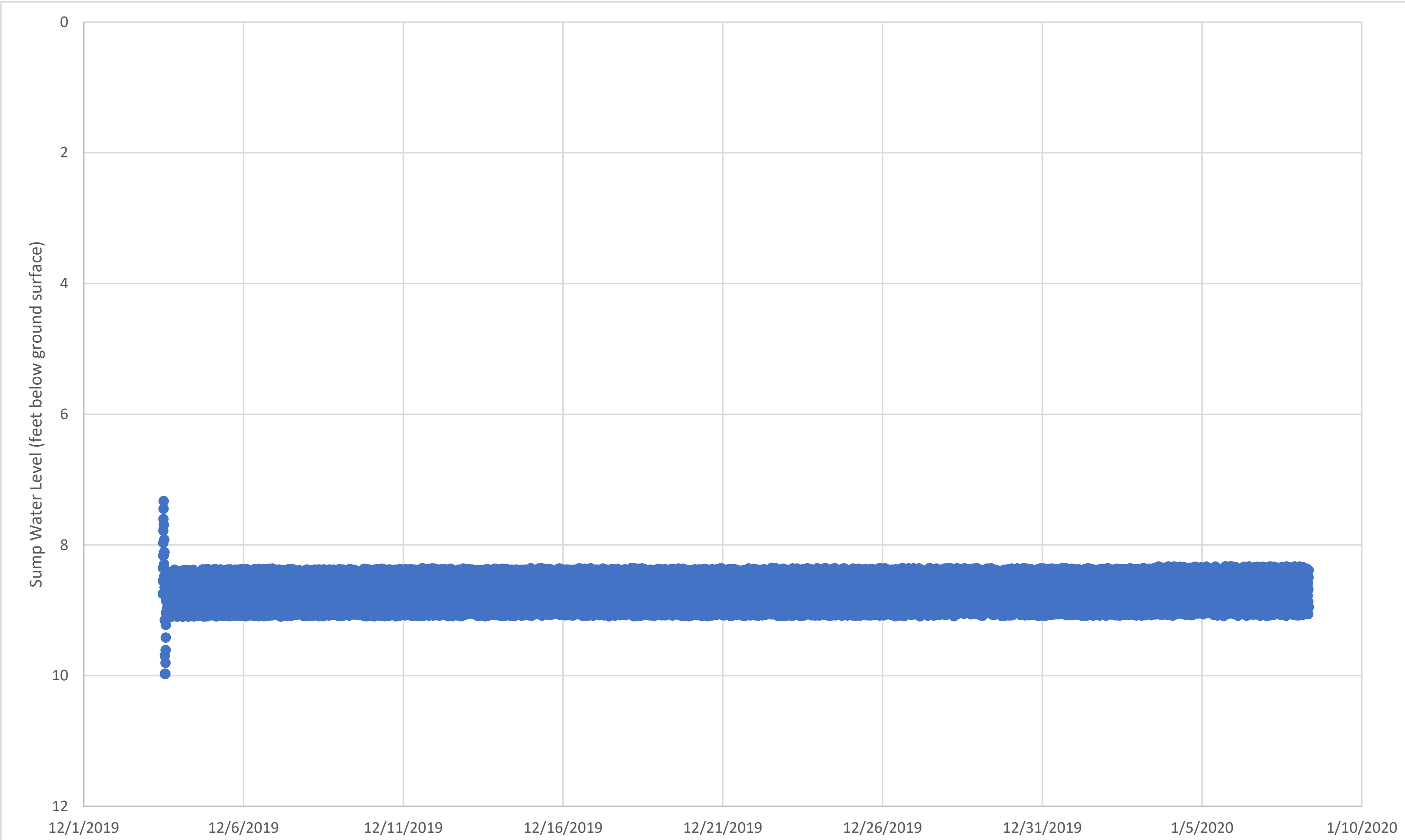


Figure 3 - Petroglyph Sump Water Level Data - Detail View

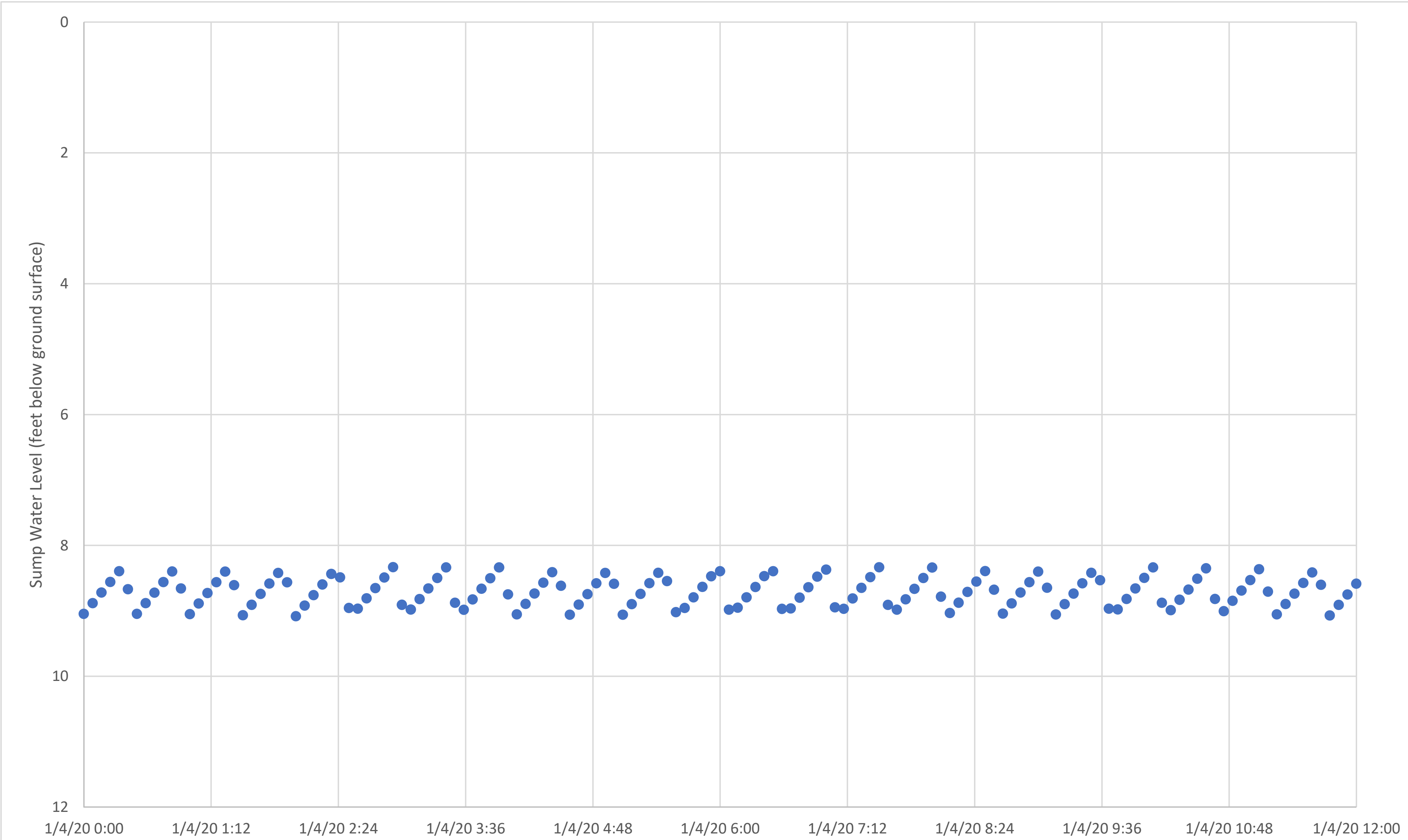


Figure 4 - Toe Drain Sump Water Level Data

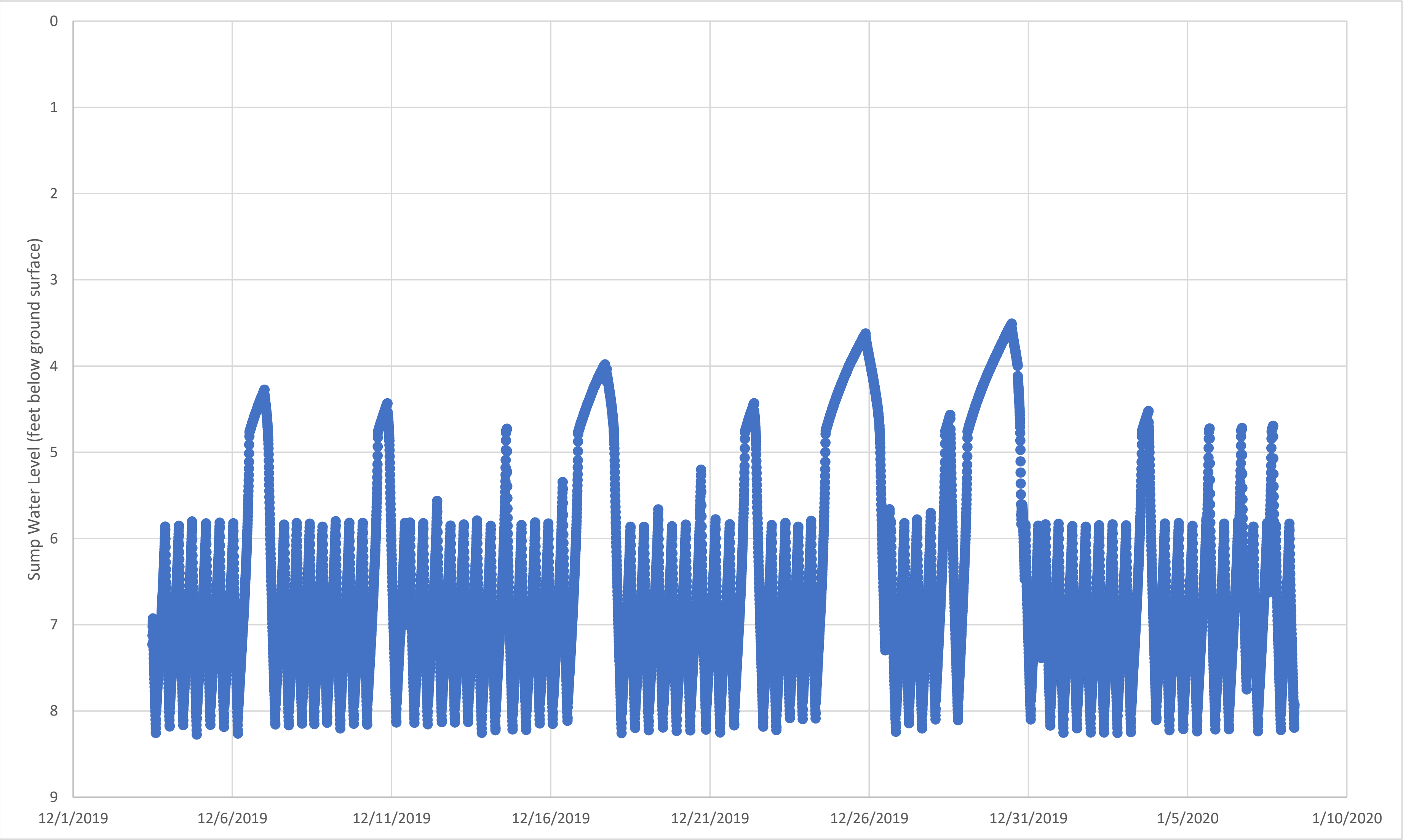


Figure 5 - Toe Drain Sump Water Level Data - Detail View

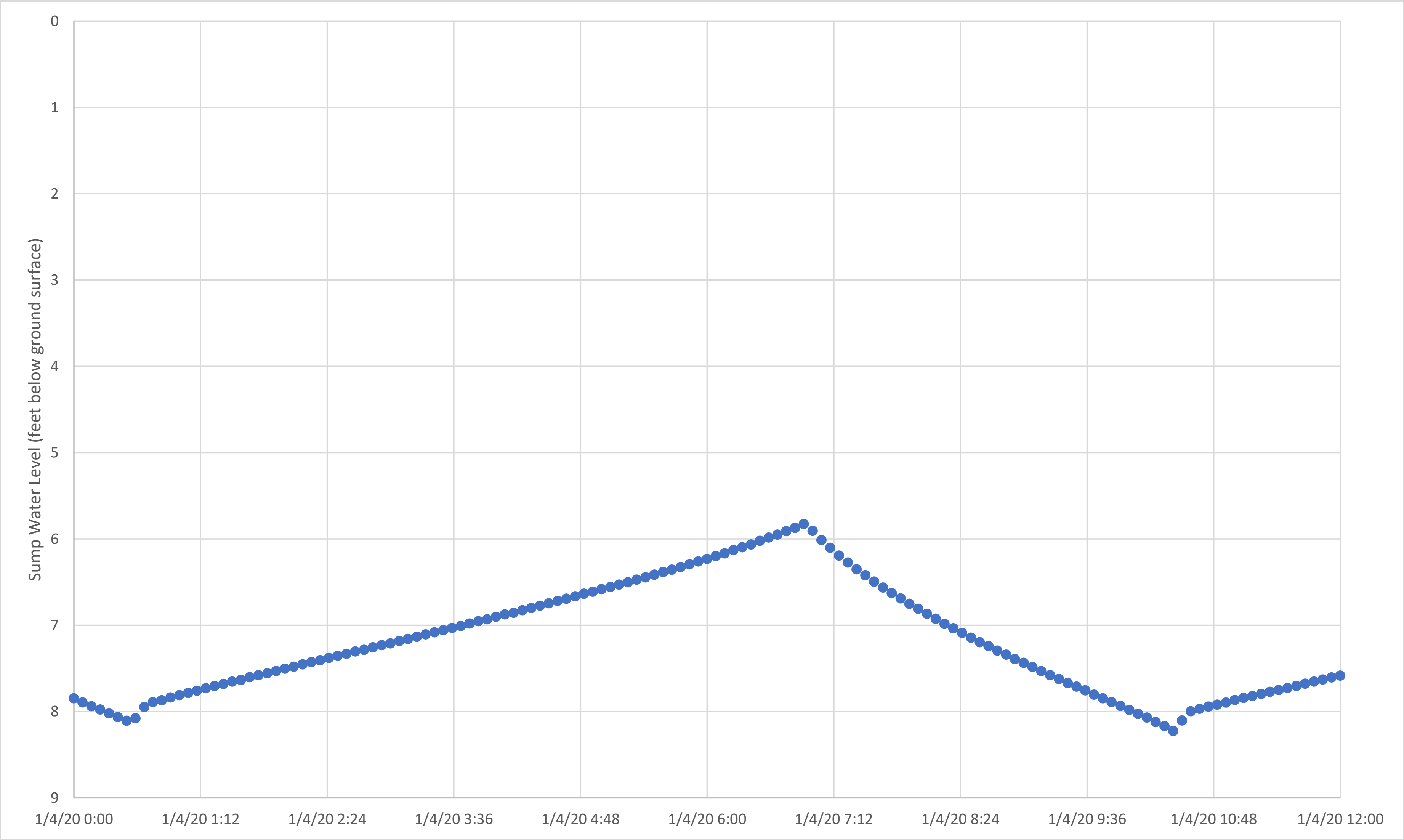
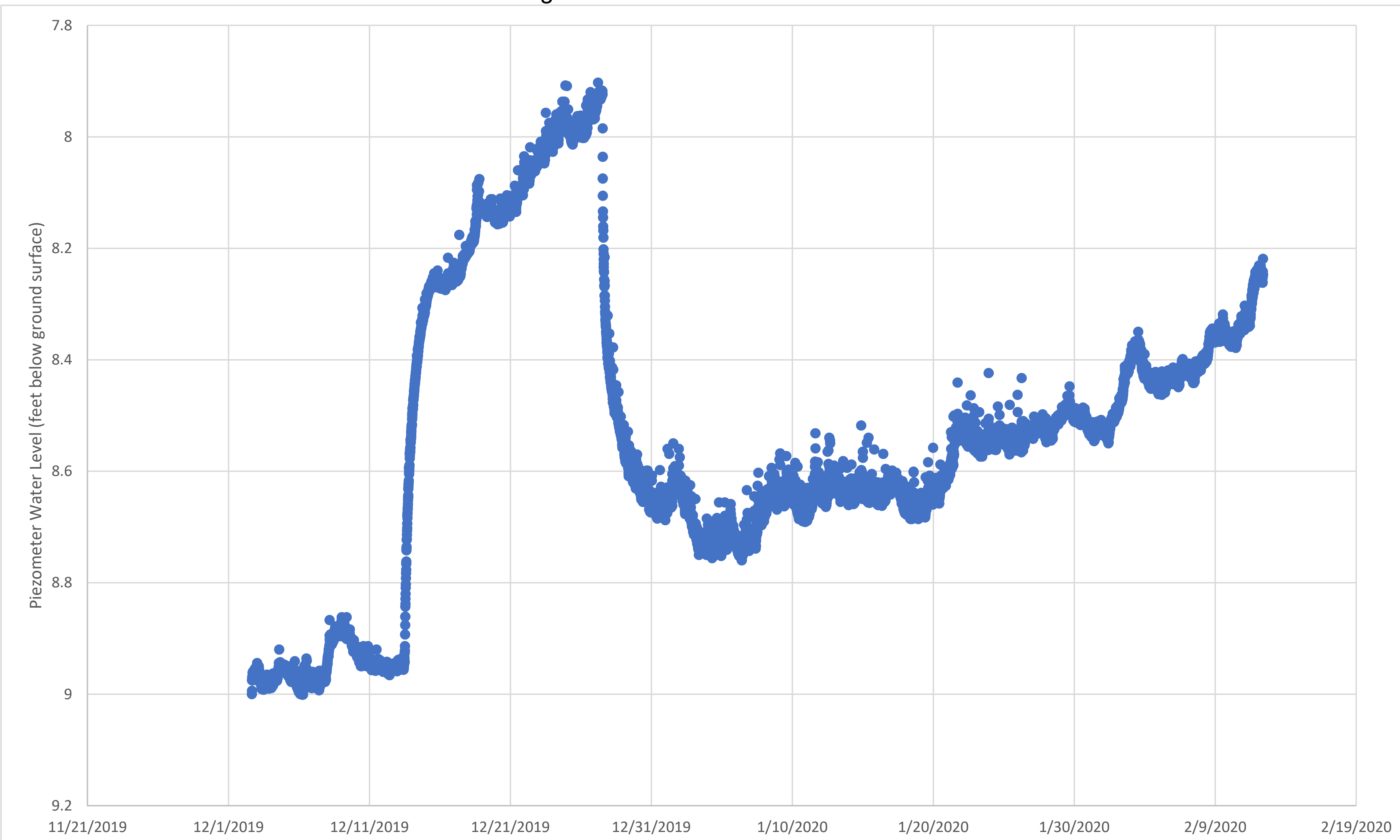
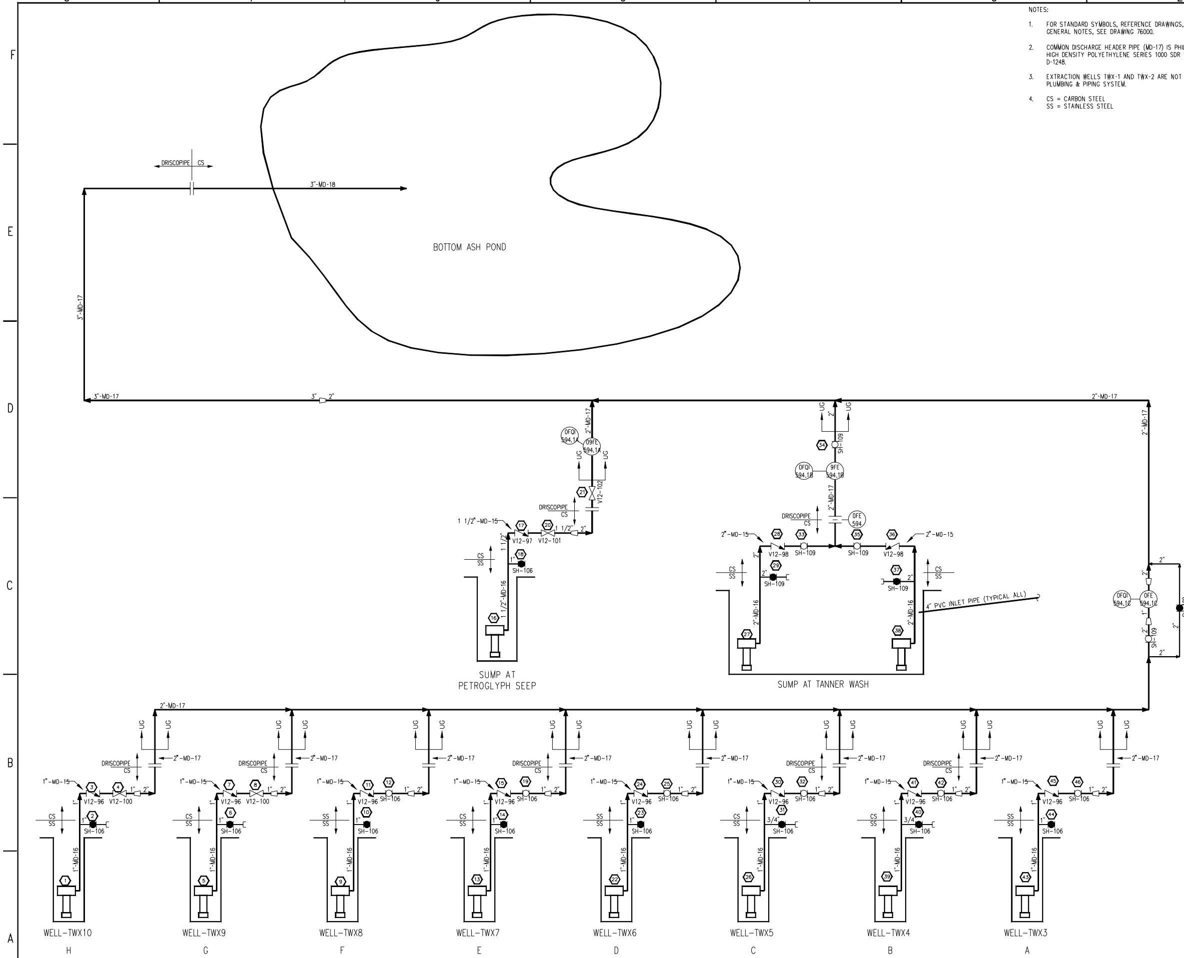


Figure 6 - B-228 Water Level Data



ATTACHMENT A

Seepage Intercept Design Drawings



NOTES:

1. FOR STANDARD SYMBOLS, REFERENCE DRAWINGS, LEGEND & GENERAL NOTES, SEE DRAWING 76000.
2. COMMON DISCHARGE HEADER PIPE (MD-17) IS PHILLIPS DRISCOPIPE HIGH DENSITY POLYETHYLENE SERIES 1000 SDR 11, PER ASTM D-1248.
3. EXTRACTION WELLS TWX-1 AND TWX-2 ARE NOT CONNECTED TO PLUMBING & PIPING SYSTEM.
4. CS = CARBON STEEL
SS = STAINLESS STEEL

	UNID EQUIPMENT NUMBER
1	CH00CM-DM-AD-PMP-08
2	CH00CM-DM-AD-VLV-30
3	CH00CM-DM-AD-VLV-08
4	CH00CM-DM-AD-VLV-19
5	CH00CM-DM-AD-PMP-07
6	CH00CM-DM-AD-VLV-29
7	CH00CM-DM-AD-VLV-07
8	CH00CM-DM-AD-VLV-18
9	CH00CM-DM-AD-PMP-06
10	CH00CM-DM-AD-VLV-28
11	CH00CM-DM-AD-VLV-06
12	CH00CM-DM-AD-VLV-17
13	CH00CM-DM-AD-PMP-05
14	CH00CM-DM-AD-VLV-27
15	CH00CM-DM-AD-VLV-05
16	CH00CM-DM-AD-PMP-11
17	CH00CM-DM-AD-VLV-11
18	CH00CM-DM-AD-VLV-33
19	CH00CM-DM-AD-VLV-16
20	CH00CM-DM-AD-VLV-22
21	CH00CM-DM-AD-VLV-35
22	CH00CM-DM-AD-PMP-04
23	CH00CM-DM-AD-VLV-26
24	CH00CM-DM-AD-VLV-04
25	CH00CM-DM-AD-VLV-15
26	CH00CM-DM-AD-PMP-03
27	CH00CM-DM-AD-PMP-10
28	CH00CM-DM-AD-VLV-10
29	CH00CM-DM-AD-VLV-32
30	CH00CM-DM-AD-VLV-03
31	CH00CM-DM-AD-VLV-25
32	CH00CM-DM-AD-VLV-14
33	CH00CM-DM-AD-VLV-21
34	CH00CM-DM-AD-VLV-34
35	CH00CM-DM-AD-VLV-20
36	CH00CM-DM-AD-VLV-09
37	CH00CM-DM-AD-VLV-31
38	CH00CM-DM-AD-PMP-09
39	CH00CM-DM-AD-PMP-02
40	CH00CM-DM-AD-VLV-24
41	CH00CM-DM-AD-VLV-02
42	CH00CM-DM-AD-VLV-13
43	CH00CM-DM-AD-PMP-01
44	CH00CM-DM-AD-VLV-23
45	CH00CM-DM-AD-VLV-01
46	CH00CM-DM-AD-VLV-12

6

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
6	9/14/13	ADDED UNID EQUIPMENT NUMBERS	SB	RW		SL	RC	CH705477
5	9/6/07	P&ID INSTRUMENT WALKDOWN	MW	LEA	PA			C710718
4	3-13-06	AS-BUILT PER CHOLLA P & I D PROJECT	WBH					30-6901
3	1-30-94	GENERAL REVISION PER AS-BUILT	PRATT	RJP	TK		CAM	92-9072
2	5-24-93	MODIFY FLOW METER NUMBERS, REMOVE ORIFICE @ TANNER WASH SUMP ADD NUMBER TO ORIFICE @ PETROGLYPH	PRATT	TK			DWS	92-9072
1	4-28-93	REVISED PER CONSTRUCTABILITY REVIEW COMMENTS	PSS	TK			DWS	92-9072

CHOLLA COMMON
BOTTOM ASH POND SEEPAGE INTERCEPT SYSTEM
P & I D

APS

SCALE NONE
DATE 5-21-05

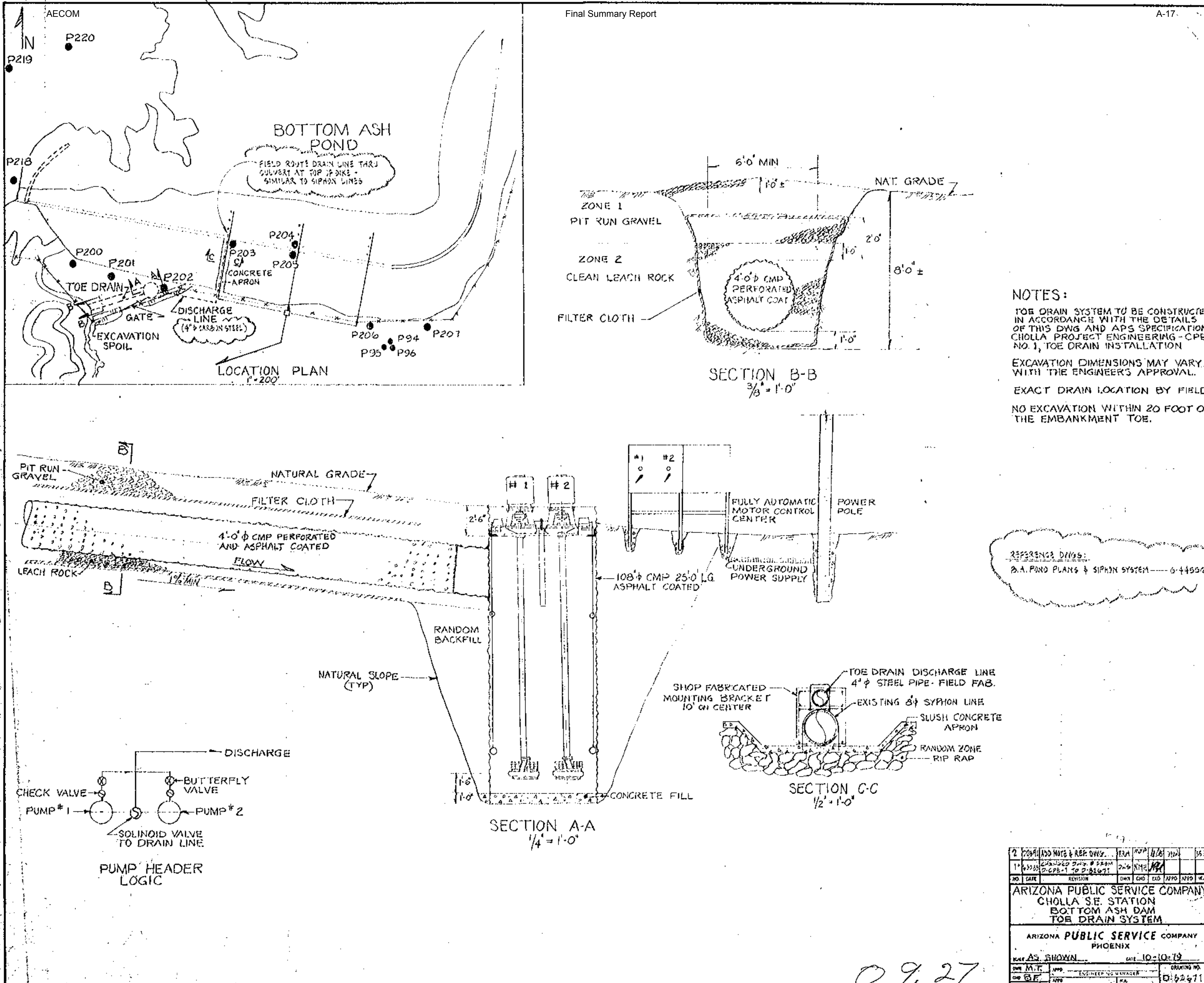
DWN AGS
CHD
EXD
RVWD D. STEWART

APPROVED
CARL MARANO/DWS
ENGINEERING SUPERVISOR

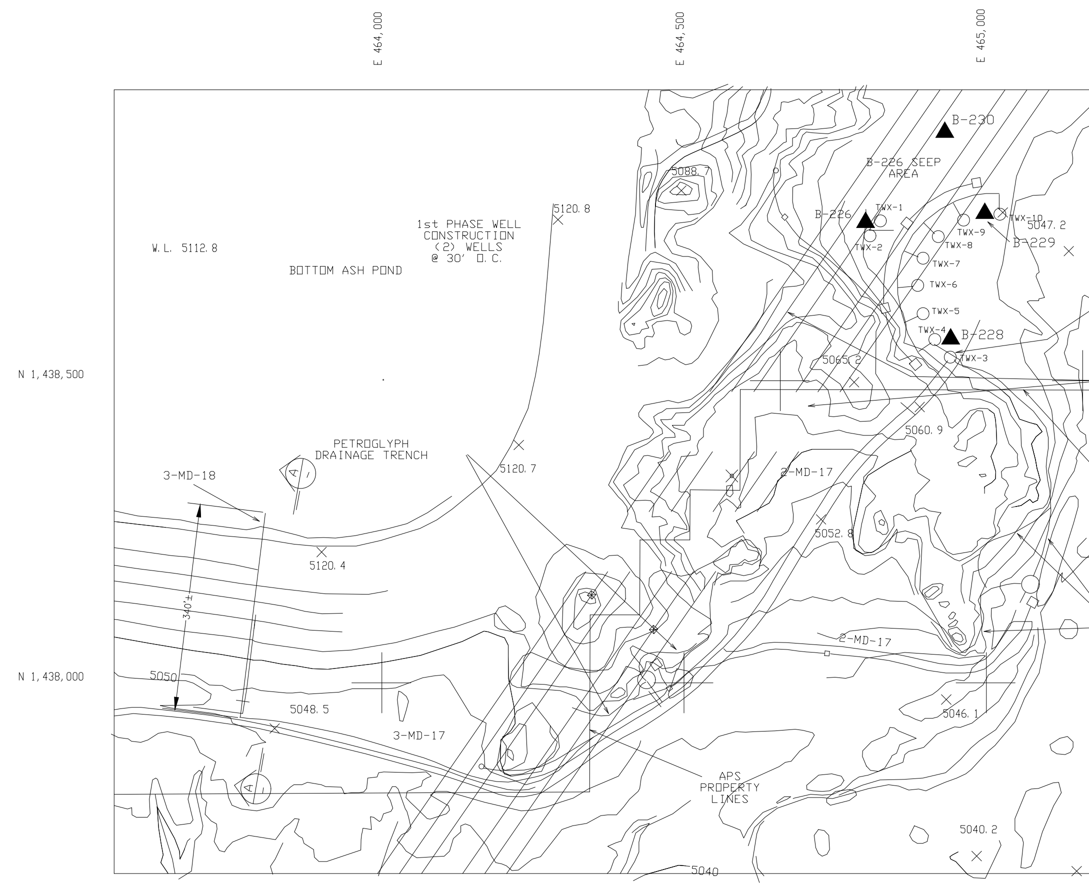
W A 62-9072

UNIT	DISC	TYPE	SYS	NUMBER	SHEET
CC	M	02	ADS	81706	34

DRAWING: $(getvar,"dwgprefix")$(getvar,"dwgname")

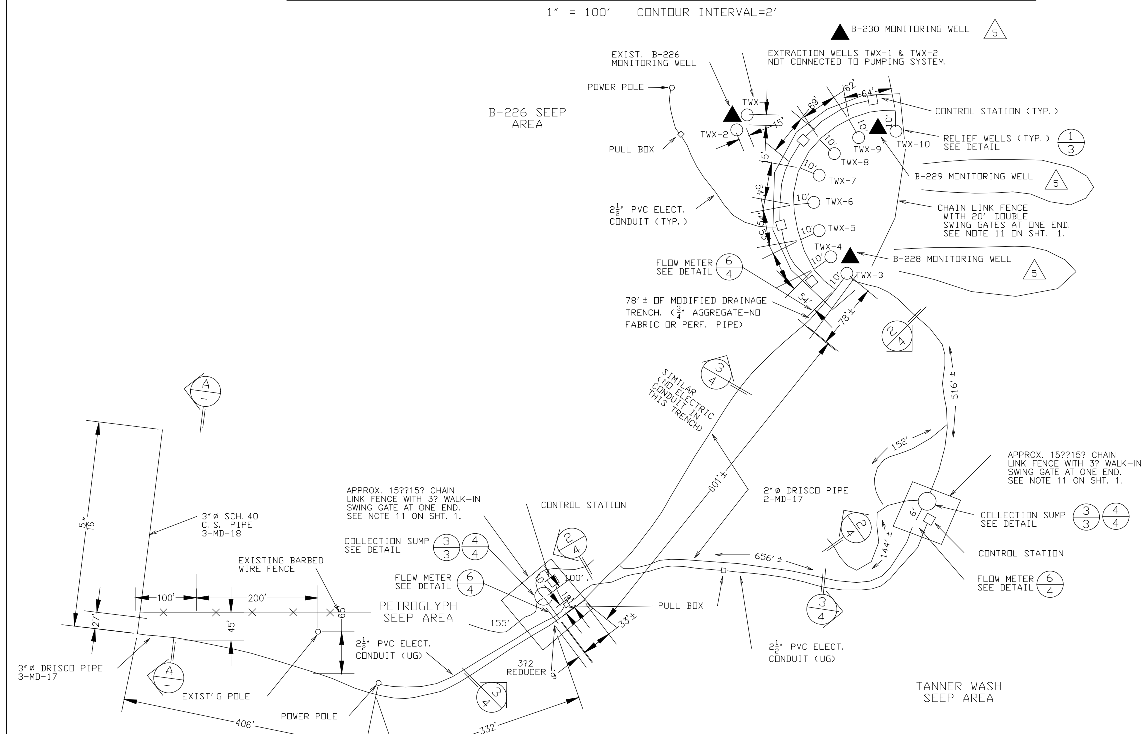


N
P220
P219
BOTTOM ASH POND
FIELD ROUTE DRAIN LINE THRU CULVERT AT TOP OF DIKE - SIMILAR TO SIPHON LINES
P218
P204
P203
P205
CONCRETE APRON
P200
P201
P202
TOE DRAIN
GATE
DISCHARGE LINE (4" ϕ CARBON STEEL)
EXCAVATION SPOIL
P206
P94
P207
P95
P96
LOCATION PLAN
1" = 200'
6'-0" MIN
1'-0" ±
NAT. GRADE
ZONE 1
PIT RUN GRAVEL
ZONE 2
CLEAN LEACH ROCK
4'-0" ϕ CMP PERFORATED ASPHALT COAT
2'-0"
1'-0"
8'-0" ±
FILTER CLOTH
1'-0"
SECTION B-B
3/8" = 1'-0"
NOTES:
TOE DRAIN SYSTEM TO BE CONSTRUCTED IN ACCORDANCE WITH THE DETAILS OF THIS DWG AND APS SPECIFICATION- CHOLLA PROJECT ENGINEERING - CPE NO. 1, TOE DRAIN INSTALLATION
EXCAVATION DIMENSIONS MAY VARY WITH THE ENGINEER'S APPROVAL.
EXACT DRAIN LOCATION BY FIELD
NO EXCAVATION WITHIN 20 FOOT OF THE EMBANKMENT TOE.
B
PIT RUN GRAVEL
NATURAL GRADE
FILTER CLOTH
4'-0" ϕ CMP PERFORATED AND ASPHALT COATED
FLOW
LEACH ROCK
B
#1
#2
2'-6"
FULLY AUTOMATIC MOTOR CONTROL CENTER
POWER POLE
UNDERGROUND POWER SUPPLY
108" ϕ CMP 25'-0" LG. ASPHALT COATED
REFERENCE DWGS:
B.A. POND PLANS & SIPHON SYSTEM ---- G-44556
RANDOM BACKFILL
NATURAL SLOPE (TYP)
1'-6"
1'-0"
CONCRETE FILL
SECTION A-A
1/4" = 1'-0"
TOE DRAIN DISCHARGE LINE 4" ϕ STEEL PIPE - FIELD FAB.
SHOP FABRICATED MOUNTING BRACKET 10' ON CENTER
EXISTING 84" ϕ SYPHON LINE
SLUSH CONCRETE APRON
RANDOM ZONE RIP RAP
SECTION C-C
1/2" = 1'-0"
DISCHARGE
CHECK VALVE
BUTTERFLY VALVE
PUMP #1
PUMP #2
SOLINOID VALVE TO DRAIN LINE
PUMP HEADER LOGIC
ADD NOTE & REF. DWG.
CHANGED DWG. # FROM D-CPE-1 TO D-62671
NO. DATE REVISION DWN CHD EXD APPD APPD W.A.
ARIZONA PUBLIC SERVICE COMPANY
CHOLLA S.E. STATION
BOTTOM ASH DAM
TOE DRAIN SYSTEM
ARIZONA PUBLIC SERVICE COMPANY
PHOENIX
SCALE AS SHOWN
DATE 10-10-79
DWN M.T.
CHD B.F.
ENGINEER OR MANAGER
DRAWING NO. D-62671
SHEET 1 OF 1
09.27



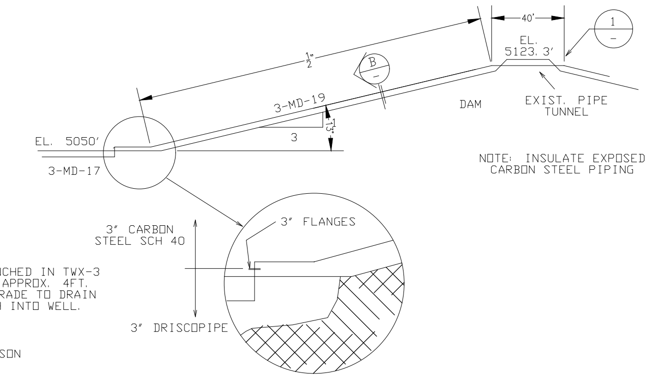
PARTIAL PLAN - BOTTOM ASH POND AREA - PETROGLYPH, TANNER WASH & B-226 SEEPS

1" = 100' CONTOUR INTERVAL=2'



PETROGLYPH, TANNER WASH & B-226 SEEPS PIPING DETAIL

DO NOT SCALE



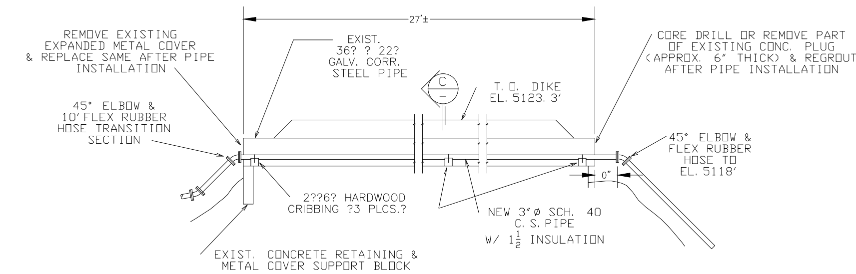
SECTION A-A

1" = 50'

LEGEND:

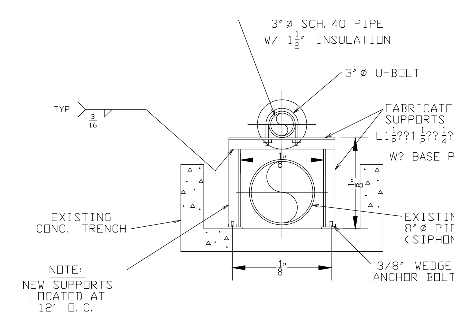
1. ○ INDICATES LOCATION OF DEWATERING WELL. FOR PLANT & MAPPING COORDINATES, SEE TABLE ON G-114438 SH. 4
2. INDICATES LOCATION OF DEWATERING SUMP. FOR PLANT & MAPPING COORDINATES, SEE G-114438 SH. 4.
3. INDICATES CONTROL STATION.
4. ▲ INDICATES MONITORING WELL.

DISCHARGE PIPING (U.G. -4' DEEP)
DRAINAGE TRENCH
ELECTRICAL CONDUIT (U.G. -3' DEEP)



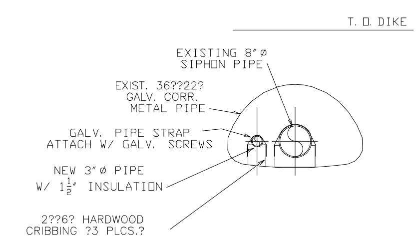
DETAIL 1

¼" = 1'0"



SECTION B

1½" = 1'0"



SECTION C

¾" = 1'0"

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
5	3-22-94	ADD WELL TABLE NOTES AND MONITORING WELLS	PRATT	MMS			MMS FOR NDS	62-9072
4	12-10-93	ADD TWX-3 NOTE ON PARTIAL PLAN PER AS-BUILTS	PRATT	MMS			MMS FOR NDS	62-9072
3	11-16-93	REVISE PER AS-BUILTS	PRATT	MMS			MMS FOR NDS	62-9072
2	5-24-93	REVISED TO SHOW EXISTING PIPE CROSSING END SUPPORTS	PRATT	MMS	TK	CAM	NDS	62-9072
1	4-28-93	REVISED PER CONSTRUCTIBILITY REVIEW COMMENTS	PSS	MMS	TK	CAM	NDS	62-9072

CHOLLA S.E.S. COMMON
BOTTOM ASH / FLY ASH PONDS
SEEPAGE INTERCEPT SYSTEM
BOTTOM ASH POND AREA PLANS & DETAILS

APS

SCALE AS NOTED — DATE 4-9-93

DWN AGS/RP — APVD N. SVOR, ENGINEERING SUPERVISOR — DRAWING NO. G-114438
CHD TRH — RVWD — W A 62-9072
EXD M. SANTOS — SHEET 2 OF 4

AAAAALQW.DWG

THIS IS AN AUTOCAD DRAWING, DO NOT MODIFY MANUALLY.

WELL & SUMP OPERATING SET POINTS

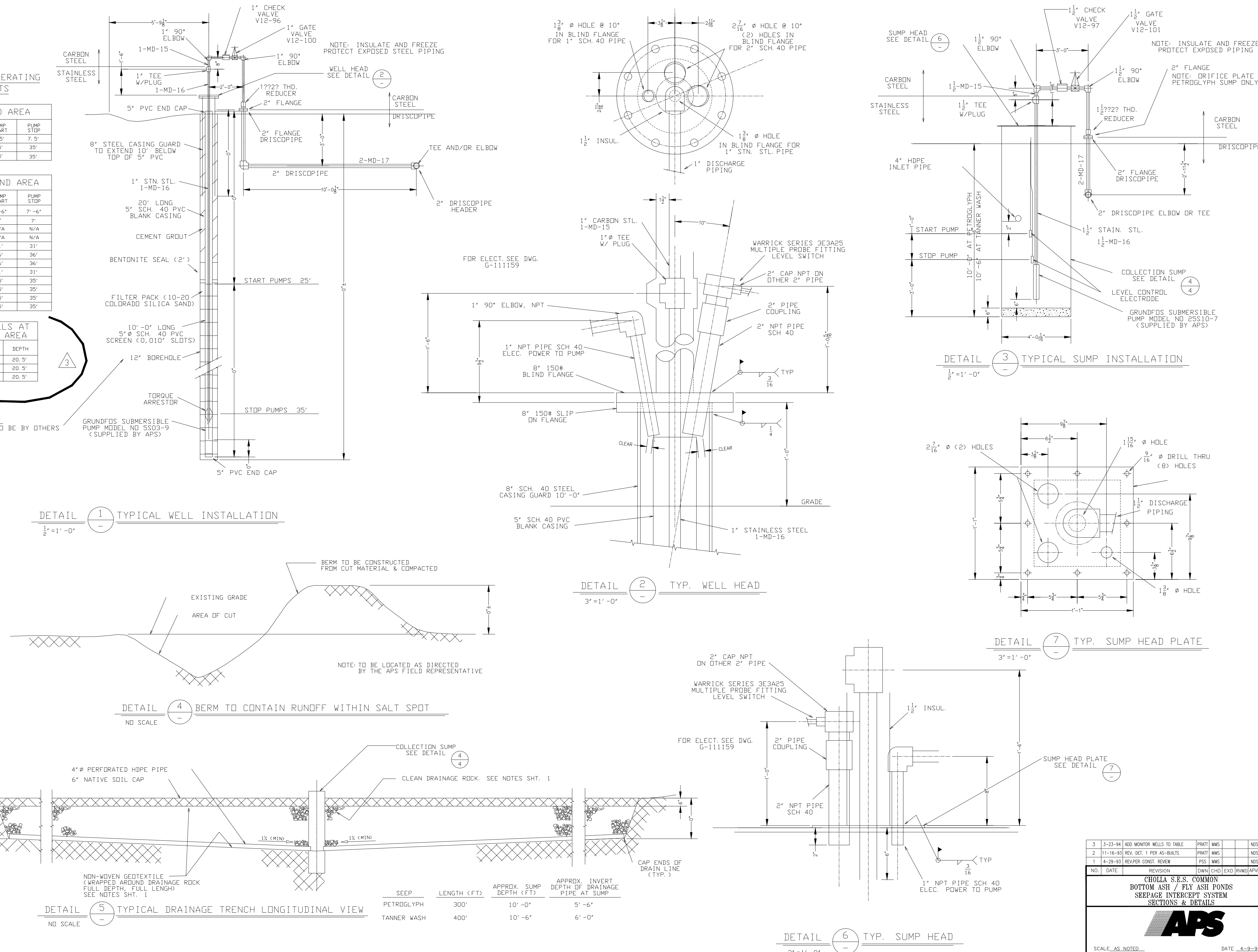
FLY ASH POND AREA			
SUMP/WELL NUMBER	DEPTH	PUMP START	PUMP STOP
FLY ASH	10.5′	6.5′	7.5′
GSX-1	40′	25′	35′
GSX-2	40′	25′	35′

BOTTOM ASH POND AREA			
SUMP/WELL NUMBER	DEPTH	PUMP START	PUMP STOP
TANNER	10′-6″	6′-6″	7′-6″
PETROGLYPH	10′	6′	7′
TWX-1	36.5′	N/A	N/A
TWX-2	35.5′	N/A	N/A
TWX-3	36′	21′	31′
TWX-4	41′	26′	36′
TWX-5	41′	26′	36′
TWX-6	36′	21′	31′
TWX-7	40′	25′	35′
TWX-8	40′	25′	35′
TWX-9	40′	25′	35′
TWX-10	40′	25′	35′

MONITOR WELLS AT B-226 SEEP AREA		
SUMP/WELL NUMBER	CASING SIZE	DEPTH
B-228	5″	20.5′
B-229	5″	20.5′
B-230	5″	20.5′

3

NOTE:
WELL DRILLING TO BE BY OTHERS



SEEP	LENGTH (FT)	APPROX. SUMP DEPTH (FT)	APPROX. INVERT DEPTH OF DRAINAGE PIPE AT SUMP
PETROGLYPH	300′	10′-0″	5′-6″
TANNER WASH	400′	10′-6″	6′-0″

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
3	3-23-94	ADD MONITOR WELLS TO TABLE	PRATT	MMS			NDS	62-9072
2	11-16-93	REV. DET. 1 PER AS-BUILTS	PRATT	MMS			NDS	62-9072
1	4-29-93	REV.PER CONST. REVIEW	PSS	MMS			NDS	30-9072

CHOLLA S.E.S. COMMON
BOTTOM ASH / FLY ASH PONDS
SEEPAGE INTERCEPT SYSTEM
SECTIONS & DETAILS

APS

SCALE AS NOTED   DATE 4-9-93

DWN PRATT
CHD TRH
EXD M. SANTOS
APVD N. SVOR, ENGINEERING SUPERVISOR
RVWD
W A 30-9072
DRAWING NO. G-114438
SHEET 3 OF 4

AAAAALQT.DWG

THIS IS AN AUTOCAD DRAWING, DO NOT MODIFY MANUALLY.

EXTRACTION WELLS AND SUMPS

FLY ASH POND AREA

WELL/SUMP NUMBER	PLANT COORDINATES		MAPPING COORDINATES		ELEVATION
	NORTH	EAST	NORTH	EAST	
GSX-1	417.7990	11351.3784	1429646.0224	470175.4157	5036.99
GSX-2	411.5224	11381.5421	1429624.4495	470197.4124	5036.63
GERONIMO SUMP	422.2951	11355.4277	1429664.4520	470192.0531	5036.46

5

BOTTOM ASH POND AREA

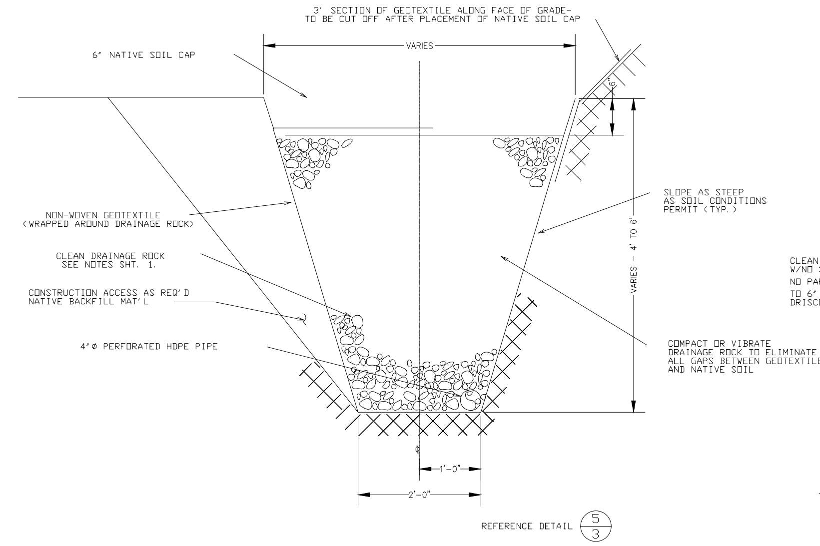
WELL/SUMP NUMBER	PLANT COORDINATES		MAPPING COORDINATES		ELEVATION
	NORTH	EAST	NORTH	EAST	
TWX-1	5204.2572	1928.0110	1438762.937	464831.673	5059.10
TWX-2	5178.2616	1942.2654	1438733.350	464829.629	5059.36
TWX-3	5113.1017	2131.0823	1438576.484	464953.393	5056.52
TWX-4	5143.1435	2096.7959	1438620.300	464940.757	5057.32
TWX-5	5175.5858	2058.5658	1438668.267	464926.098	5058.20
TWX-6	5208.0803	2020.9724	1438715.934	464912.003	5058.22
TWX-7	5239.4092	1982.3336	1438763.184	464896.398	5057.34
TWX-8	5298.1537	1962.1522	1438823.545	464911.144	5057.44
TWX-9	5346.6895	1965.1755	1438862.774	464939.910	5057.04
TWX-10	5354.9447	2018.6853	1438840.816	464989.420	5055.09
TANNER SUMP	4825.8621	2434.8512	1438170.545	465053.958	5047.40
PETROGLYPH SUMP	4335.7754	2017.8716	1437983.209	464438.132	5052.00

MONITOR WELLS AT B-226 SEEP AREA

WELL/SUMP NUMBER	PLANT COORDINATES		MAPPING COORDINATES		ELEVATION
	NORTH	EAST	NORTH	EAST	
B-226	5191.3692	1934.0914	1438748.802	464829.829	5057.76
B-228	5128.8360	2138.0474	1438585.965	464967.755	5055.56
B-229	5339.3267	2070.0092	1438799.939	465024.193	5054.44
B-230	5379.5081	1926.5358	1438911.279	464925.109	5054.80

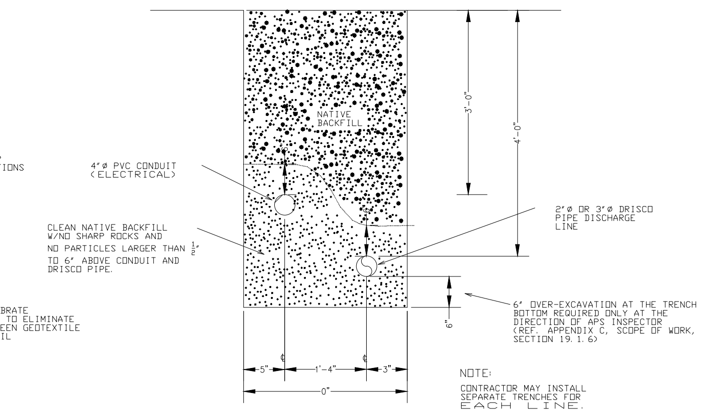
AQUIFER PROTECTION PERMIT WELLS

WELL/SUMP NUMBER	PLANT COORDINATES		MAPPING COORDINATES		ELEVATION
	NORTH	EAST	NORTH	EAST	
UST-1	-1283.876	1301.135	1433639.579	460797.005	5018.74
CR-1	-3130.265	-2059.037	1433900.451	456970.549	5007.36



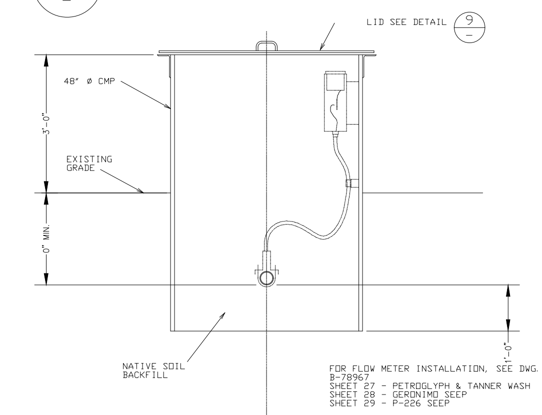
DETAIL 2 TYPICAL INTERCEPT TRENCH

1" = 1'-0"



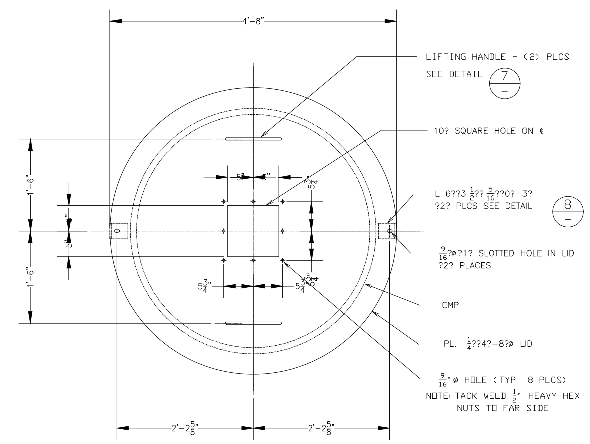
DETAIL 3 TYPICAL UTILITY TRENCH

1" = 1'-0"



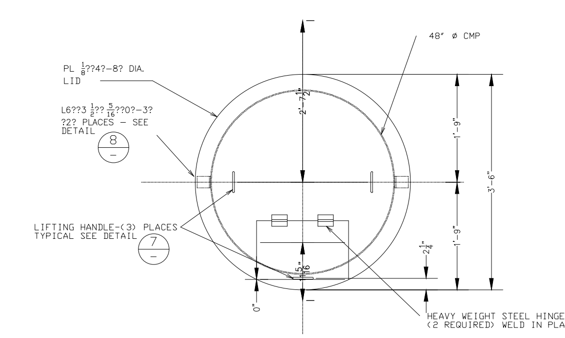
DETAIL 6 TYP. FLOW METER ENCLOSURE

¾" = 1'-0"



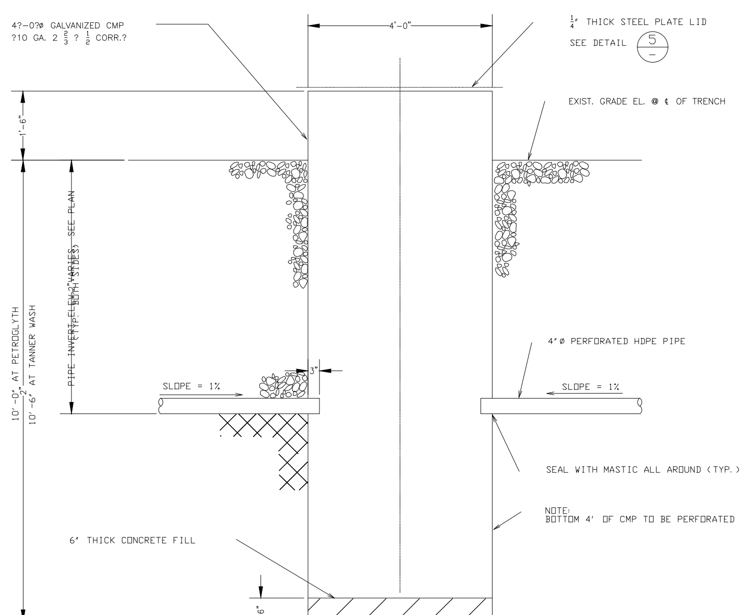
DETAIL 5 TYPICAL SUMP LID

1" = 1'-0"



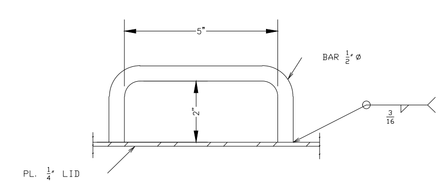
DETAIL 9 TYP. FLOW METER LID

1" = 1'-0"



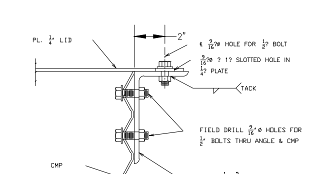
DETAIL 4 TYPICAL COLLECTION SUMP

¾" = 1'-0"



DETAIL 7 TYPICAL SUMP LID HANDLE

6" = 1'-0"



DETAIL 8 TYPICAL CMP LID ATTACHMENT

3" = 1'-0"

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.
5	3-22-94	ADD WELL LOCATION TABLE	PRATT	MMS			NDS	62-9072
4	12-10-93	DET. 1 ELIMINATED PER AS-BUILTS	PRATT	MMS			NDS	62-9072
3	11-16-93	REVISED PER AS-BUILTS	PRATT	MMS			NDS	62-9072
2	5-24-93	REV. PER PRE-BID MEETING	PRATT	MMS			NDS	62-9072
1	4-28-93	REV. PER CONSTR. REVIEW	PSS	MMS			NDS	62-9072

CHOLLA S.E.S. COMMON
BOTTOM ASH / FLY ASH PONDS
SEEPAGE INTERCEPT SYSTEM
SECTIONS & DETAILS

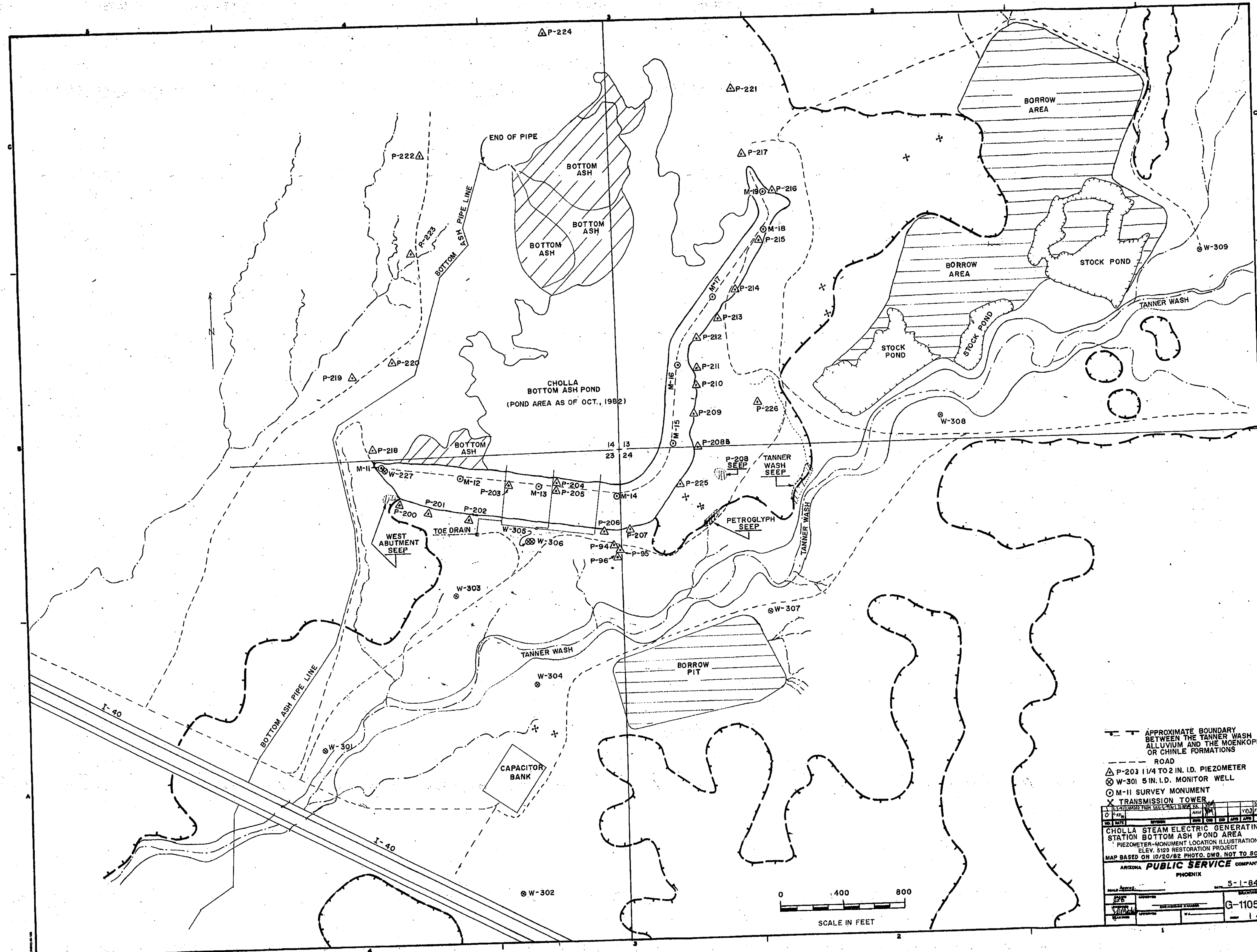
APS

SCALE AS NOTED DATE 4-9-93

DWN PRATT | APVD N.SVOR ENGINEERING SUPERVISOR | DRAWING NO.
CHD TRH | RVWD | W A 62-9072 | G-114438
EXD M. SANTOS | SHEET 4 OF 4

AAAAALQU.DWG

THIS IS AN AUTOCAD DRAWING, DO NOT MODIFY MANUALLY.



P-224
P-221
BORROW AREA
END OF PIPE
P-222
P-217
BOTTOM ASH
M-19
P-216
BOTTOM ASH
BOTTOM ASH
M-18
P-215
P-223
BOTTOM ASH PIPE LINE
W-309
BORROW AREA
STOCK POND
M-17
P-214
TANNER WASH
P-213
P-212
STOCK POND
STOCK POND
N
P-211
M-16
P-220
P-219
P-210
CHOLLA BOTTOM ASH POND
(POND AREA AS OF OCT., 1982)
P-209
P-226
W-308
M-15
14 13
23 24
P-208B
BOTTOM ASH
P-218
P-208 SEEP
TANNER WASH SEEP
M-11
W-227
M-12
P-203
M-13
P-204
P-205
M-14
P-225
P-201
P-200
P-202
TOE DRAIN
W-305
P-206
P-207
PETROGLYPH SEEP
TANNER WASH
WEST ABUTMENT SEEP
W-306
P-94
P-95
P-96
W-303
W-307
TANNER WASH
BORROW PIT
BOTTOM ASH PIPE LINE
W-304
I-40
W-301
CAPACITOR BANK
I-40
W-302
0 400 800
SCALE IN FEET
APPROXIMATE BOUNDARY BETWEEN THE TANNER WASH ALLUVIUM AND THE MOENKOPI OR CHINLE FORMATIONS
ROAD
P-203 1 1/4 TO 2 IN. I.D. PIEZOMETER
W-301 5 IN. I.D. MONITOR WELL
M-11 SURVEY MONUMENT
TRANSMISSION TOWER
CHOLLA STEAM ELECTRIC GENERATING STATION BOTTOM ASH POND AREA
PIEZOMETER-MONUMENT LOCATION ILLUSTRATION
ELEV. 5120 RESTORATION PROJECT
MAP BASED ON 10/20/82 PHOTO. DWG. NOT TO SCALE
ARIZONA PUBLIC SERVICE COMPANY
PHOENIX
5-1-84
G-110544

Figure 20

NOTES:

1) ALL ELEVATIONS REFERENCED NAVD 1988 UNLESS OTHERWISE NOTED.

2) CONTOURS SHOWN ARE 2' CONTOURS

3) MAIN RESERVOIR WATER LEVEL AS MEASURED BY SURVEYOR ON 9/4/09 WL=5113.3 (USING GPS, AND DATUM NAVD 88) WL=5111.2 (USING DWLG, NGVD 29, PRE EXISTING DATUM USED WHEN DAM WAS CONSTRUCTED)

4) WEST DECANT CELL WATER LEVEL AS MEASURED BY SURVEYOR ON 9/4/09 WL=5125.37 (GPS NAVD 88)

5) DECANTED SOLIDS CURRENTLY BEING EXCAVATED FROM EAST DECANT CELL

6) MAIN RESERVOIR MAXIMUM OPERATING WATER LEVEL 5117.8 (REF ADWR DAM PERMIT #09.27) NGVD 29

7) MAIN RESERVOIR TOP OF DAM ELEVATION 5123.3 (REF DWG G-44556 AND ADWR DAM PERMIT #09.27) NGVD 29

8) MAIN RESERVOIR ESTIMATED VOLUME CAPACITY IS 115 ACRE FEET BETWEEN CURRENT WATER LEVEL AND MAXIMUM OPERATING WATER LEVEL.

9) WEST DECANT CELL CONTAINS APPROXIMATELY 3.7 ACRE FEET OF WATER.

10) SUMMARY: MAIN RESERVOIR HAS AMPLE VOLUME CAPACITY IN THE EVENT THE WEST CELL EMBANKMENT IS BREACHED.

GRAPHIC SCALE
150 0 150 300
(IN FEET)
1 inch = 150 ft.

NO.	DATE	REVISION	DWN	CHD	EXD	RVWD	APVD	W.A.

CHOLLA POWER PLANT
BOTTOM ASH POND TOPO SURVEY
OF EAST AND WEST DECANT CELLS
PLAN

APS

SCALE AS NOTED DATE 9-9-09

DWN RDJ	APPROVED	W A
CHD MLD	JOHN D. MITCHELL ENGINEERING SUPERVISOR	30-6922

EXD TT	UNIT	DISC	TYPE	SYS	NUMBER	SHEET
RVWD RSJ	CC	C	16	ADS	161394	2

ATTACHMENT B

ADWR Wells Registry Files

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-1

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

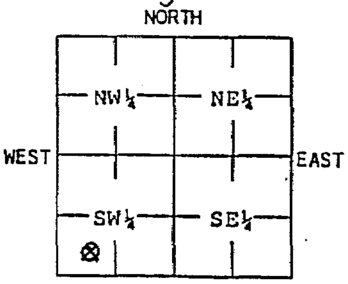
1. Township 18 N/S (N)
2. Range 19 E/W (E)
3. Section 13

4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)

5. County Assessor's I.D.

Book | Map | Parcel

6. County Navajo



INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____

8. Action Requested: Drill New Well X ; or Deepen ____ Replace ____ Modify ____ Well No. 55-____

9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X

10. Will this proposed well pump Colorado River Water? Yes ____ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ____

Arizona Public Service Co.
Name
P.O. Box 53999 M/S 9368
Mailing Address
Phoenix, Az 85072-3999
City State Zip

Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:

Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip

Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:

Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip

Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A (18-19) 13 CCD
Filed 5-7-93 By ck
Input ENTERED MAY 14 1993 By
Mailed 5-12-93 By ck
Registration No. 55-539095
INA Jo. Cty.
W/S 03 S/B 18

PLACE OF USE:

14. Township 18 N/S (N)
Range 19 E/W (E)

15. Section 13

16. Legal description of land:
____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity:
one (1) to 4 gallons per minute

18. Estimate of total annual pumping:
1.5 to 6.5 acre feet

19. Principal use of water: (be specific)
Part of a seepage collection system for a Bottom Ash Pond-Water returned to the Bottom Ash Pond

20. Other uses intended: (be specific)
None

21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)

22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated:
N.A.

23. Construction will start about:
May 10, 1993
Month Year

DRILLING FIRM:

24. ENVIRO DRILL, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number

ROC License classification

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

MICROFILMED

JUN 6 1993

VARIANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS ENVIRONMENTAL DEPT. | John L Boyer Senior Scientist | 5/4/93

Typed or printed name | Signature [X] Land Owner [ ] Lessee of wellsite | Date

DWR-55-40 9/92 (Rev.)

- ω - /

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

APR 6 1994

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 188 (Street) Joseph City (City), AZ (State) 86032 (Zip)
2. Driller Name: ENVIRO-DRILL
   Address: 3737 E Broadway (Street) phx (City) AZ (State) 85040 (Zip)
3. Location: 18 (N)/S Township; 19 (E)/W Range; 13 Section; SE 1/4 10-acre; SW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55- 539095 (Required)
5. Permit No. ______ (If issued)

APR 6 1994

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing PVC
8. Diameter and length of casing 5" in. from 0 to 20, — in from — to —.
9. Method of sealing at reduction points —
10. Perforated from 20 to 40, from — to —, from — to —.
11. Size of cuts .010 Number of cuts per foot -
12. If screen was installed: Length 20 ft. Diam 5" in. Type PVC
13. Method of construction Augered
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 5 (Month) 26 (Day) 93 (Year)
15. Date completed 5 (Month) 27 (Day) 93 (Year)
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level
18. If flowing well, state method of flow regulation: Static
19. Remarks: ______

ENTERED APR - 7 1994

MICROFILMED

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539095
File No. A(18-19)13ccd
Received ______ By ______
Entered ______ By ______

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	SAND
20	40	CLAY

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Gabriel A. Escamilla

Driller Name: ENVIRO DRILL

Street: 3532 [illegible] BROADWAY

City: Phx State: AZ Zip: 85040

Date 7-12-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-2

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book | Map | Parcel
6. County Navajo

NORTH / WEST / EAST / SOUTH — NW¼ NE¼ SW¼ SE¼ — ⊗

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____
8. Action Requested: Drill New Well X; or Deepen ____ Replace ____ Modify ____ Well No. 55-____
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X
10. Will this proposed well pump Colorado River Water? Yes ____ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Arizona Public Service Co.
Name
P.O. Box 53999 M/S 9368
Mailing Address
Phoenix, Az 85072-3999
City State Zip
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE

Office Record
File No. A(18-19)13 CCD
Filed 5-7-93 By sk
Input ENTERED MAY 14 1993 By
Mailed 5-12-93 By sk
Registration No. 55-539096
INA J. City
W/S 03 S/B 18

PLACE OF USE:

14. Township 18 (N)/S Range 19 (E)/W
15. Section 13
16. Legal description of land: ____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pond-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 Month Year

DRILLING FIRM:

24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number
ROC License classification

MAY -6 1993 OPERATIONS DIV.

MICROFILMED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and submit with fee to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registation number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

-7 1993

VARIANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — John L Boyer, Senior Scientist — 5/4/93
Typed or printed name — Signature [✓] Land Owner [ ] Lessee of wellsite — Date

-2

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: P O BOX 188 (Street) JOSEPH CITY (City) AZ (State) 86032 (Zip)
2. Driller Name: ENVIRO-DRILL
   Address: 3737 E BROADWAY (Street) phx (City) AZ (State) 85040 (Zip)
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55- 539096 (Required)
5. Permit No. ______ (If issued)

APR 6 1994

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing PVC
8. Diameter and length of casing 5" in. from 0 to 20, — in from — to —.
9. Method of sealing at reduction points —
10. Perforated from 20 to 40, from — to —, from — to —.
11. Size of cuts .010 Number of cuts per foot ______
12. If screen was installed: Length 20 ft. Diam 5" in. Type PVC
13. Method of construction Augered
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 5- (Month) 27 (Day) 93 (Year)
15. Date completed 5- (Month) 28 (Day) 93 (Year)
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation: static

ENTERED APR - 7 1994

19. Remarks: ______

MICROFILMED

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539096
File No. A(18-19)13ccd
Received ______ By ______
Entered ______ By ______

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	SAND
20	40	CLAY

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Gabriel A. Escamilla

Driller Name: EDI

Street

ENVIRO-DRILL, INC.
P O BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 7-12-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name TWX-3

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 N | 2. Range 19 E | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book ___ Map ___ Parcel ___
6. County Navajo

NORTH
WEST | NW¼ | NE¼ | SW¼ ⊗ | SE¼ | EAST
SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ___
8. Action Requested: Drill New Well X ; or Deepen ___ Replace ___ Modify ___ Well No. 55-___
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ___ No X
10. Will this proposed well pump Colorado River Water? Yes ___ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ___
Arizona Public Service Co.
Name
P.O. Box 53999 M/S 9368
Mailing Address
Phoenix, Az 85072-3999
City State Zip
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 5-7-93 By k
Input ENTERED MAY 14 1993
Mailed 5-12-93 By k
Registration No. 55-539097
INA J. City
W/S 63 S/B 18

PLACE OF USE:

14. Township 18 N Range 19 E
15. Section 13
16. Legal description of land: ___ 1/4 (10 Acre) ___ 1/4 (40 Acre) ___ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Dam-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 (Month Year)

DRILLING FIRM:

24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number
ROC License classification

MAY - 7 1993

MAY - 6 1993
OPERATIONS DIV.

GENERAL INSTRUCTIONS

1. Fill out this form in **DUPLICATE** and send **WITH $10.00 FEE** to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

MICROFILMED

L. ... ANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
John L Boyer, Senior Scientist — Signature [X] Land Owner [ ] Lessee of wellsite
5/4/93 — Date

DWR 55-40 9/92 (Rev)

w-7

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 188 Joseph City 86032
   Street / City / State / Zip
2. Driller Name: Enviro-Drill
   Address: 3737 E Broadway phx AZ 85040
   Street / City / State / Zip

3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)

4. Well Registration No. 55-539097 (Required)

5. Permit No. ____ (If issued)

APR 6 1994

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing PVC
8. Diameter and length of casing 5" in. from 0 to 20, – in from – to –.
9. Method of sealing at reduction points –
10. Perforated from 20 to 40, from – to –, from – to –.
11. Size of cuts .010 Number of cuts per foot –
12. If screen was installed: Length 20 ft. Diam 5" in. Type PVC
13. Method of construction Augered
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 8 (Day) 93 (Year)
15. Date completed 7 (Month) 8 (Day) 93 (Year)
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level
18. If flowing well, state method of flow regulation: Static

ENTERED APR - 7 1994

19. Remarks:

MICROFILMED

DWR-55-55-7/91 (Rev.)

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539097
File No. A(18-19)13ccd
Received ____ By ____
Entered ____ By ____

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	SAND
20	40	CLAY

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel A. Escamilla Jr.

Street: ENVIRO-DRILL, INC.
P.O.BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 7-12-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-4

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S 2. Range 19 (E)/W 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D.
   Book | Map | Parcel
6. County Navajo

NORTH
- NW¼ NE¼
WEST EAST
- SW¼ SE¼ ⊗
SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____
8. Action Requested: Drill New Well X; or Deepen ____ Replace ____ Modify ____ Well No. 55-____
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X
10. Will this proposed well pump Colorado River Water? Yes ____ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 53999 M/S 9368
    City: Phoenix, State: Az Zip: 85072-3999
    Telephone: (602) 250-3196 John L. Boyer
12. Owner or Lessee of Land at wellsite:
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 188
    City: Joseph City, State: Az Zip: 86032
    Telephone: (602) 288-1206 Conrad Spencer
13. Owner of well:
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 188
    City: Joseph City, State: Az Zip: 86032
    Telephone: (602) 288-1206 Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13ccD
Filed 5-7-93 By [initials]
Input ENTERED MAY 14 1993 By
Mailed 5-12-93 By [initials]
Registration No. 55-539098
INA J City
W/S 03 S/B 18

PLACE OF USE:

14. Township 18 (N)/S Range 19 (E)/W
15. Section 13
16. Legal description of land: ____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
    Depth 30 to 40 feet
    Type of Casing PVC-Sch 40
    Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Dam-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 (Month, Year)

DRILLING FIRM:

24. Firm: Enviro Drill, Inc.
    Mailing Address: P.O. Box 24189
    City: Phoenix, State: Az Zip: 85074
    DWR License Number: No. 533
    ROC License classification

MAY - 7 1993

VARIANCE GRANTED

MAY - 6 1993

OPERATIONS DIV.

MICROFILMED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on the form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
[signature] Senior Scientist — Signature [ ] Land Owner [ ] Lessee of wellsite
5/4/93 — Date

DWR 55-30 (rev.)

w-8

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 188 (Street) Joseph City (City) AZ (State) 86032 (Zip)
2. Driller Name: Enviro-Drill
   Address: 3737 E Broadway (Street) phx (City) AZ (State) 85040 (Zip)
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55-539098 (Required)
5. Permit No. ______ (If issued)

APR 6 1994

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing PVC
8. Diameter and length of casing 5" in. from 0 to 20, - in from - to -.
9. Method of sealing at reduction points -
10. Perforated from 20 to 40, from - to -, from - to -.
11. Size of cuts .010 Number of cuts per foot ______
12. If screen was installed: Length 20 ft. Diam 5" in. Type PVC
13. Method of construction Augered
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 8 (Day) 93 (Year)
15. Date completed 7 (Month) 8 (Day) 93 (Year)
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level
18. If flowing well, state method of flow regulation: static

ENTERED APR - 7 1994

19. Remarks: ______

DWR-55-55-7/91 (Rev.)

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No. 55-539098	
File No. A(18-19)13ccd	
Received ______	By ______
Entered ______	By ______

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	SAND
20	40	clay

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Gabriel [illegible]

Driller Name: ENVIRO-DRILL

3232 E BROADWAY
Street

[illegible] AZ 85040
City State Zip

Date 7-12-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

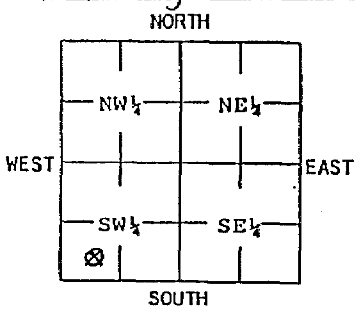
Well Name: TWX-5

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 N/S 2. Range 19 E/W 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book ___ Map ___ Parcel ___
6. County Navajo



INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ___
8. Action Requested: Drill New Well X ; or Deepen ___ Replace ___ Modify ___ Well No. 55-___
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ___ No X
10. Will this proposed well pump Colorado River Water? Yes ___ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ___
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City, State, Zip: Phoenix, Az 85072-3999
Telephone: (602) 250-3196 John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206 Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206 Conrad Spencer

DO NOT WRITE IN THIS SPACE	
Office Record	
File No.	A(18-19) 13ccD
Filed	5-7-93 By ek
Input	ENTERED MAY 14 19[illegible] By
Mailed	5-12-93 By ek
Registration No.	55-539099
INA	5. cty
W/S	03 S/B 18

PLACE OF USE:

14. Township 18 N/S Range 19 E/W
15. Section 13
16. Legal description of land: ___ 1/4 (10 Acre) ___ 1/4 (40 Acre) ___ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Dam-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 (Month / Year)

DRILLING FIRM:

24. Firm: Enviro Drill, Inc.
Mailing Address: P.O. Box 24189
City, State, Zip: Phoenix, Az 85074
DWR License Number: No. 533
ROC License classification

MAY - 7 1993

RECEIVED MAY - 6 1993

MICROFILMED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

VARIANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
John L. Boyer, Senior Scientist — Signature [X] Land Owner [ ] Lessee of wellsite
5/4/93 — Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 188 Joseph City, AZ 86032
   Street City State Zip
2. Driller Name: Enviro-Drill
   Address: 3737 E Broadway phx AZ 85040
   Street City State Zip

3. Location: 18 N/S Township 19 E/W Range 13 Section SE 1/4 10-acre SW 1/4 40-acre SW 1/4 160-acre

4. Well Registration No. 55- 539099 (Required)

5. Permit No. ______ (If issued)

APR 6 1994

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing PVC
8. Diameter and length of casing 5" in. from 0 to 20, - in from - to -.
9. Method of sealing at reduction points -
10. Perforated from 20 to 40, from - to -, from - to -.
11. Size of cuts .010 Number of cuts per foot -
12. If screen was installed: Length 20 ft. Diam 5" in. Type PVC
13. Method of construction Augered
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 9 93
    Month Day Year
15. Date completed 7 9 93
    Month Day Year
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level
18. If flowing well, state method of flow regulation: Static
19. Remarks:

ENTERED APR - 7 1994

MICROFILMED

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539099
File No. A(18-19)13ccd
Received ______ By ______
Entered ______ By ______

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	20	SAND
20	40	CLAY

I hereby certify that this well was drilled by me (or under my supervision) and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel A. Escamilla Jr. EDI

Street: ENVIRO DRILL, INC. P O BOX 24189

City: PHOENIX, State: AZ Zip: 85074

Date 7-12-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-6

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book | Map | Parcel
6. County Navajo

NORTH / WEST / EAST / SOUTH — NW¼, NE¼, SW¼, SE¼ — ⊗ (in SW¼)

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____
8. Action Requested: Drill New Well X ; or Deepen ____ Replace ____ Modify ____ Well No. 55-____
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X
10. Will this proposed well pump Colorado River Water? Yes ____ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City, State, Zip: Phoenix, Az 85072-3999
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 5-7-93 By ek
Input ENTERED MAY 14 1993
Mailed 5-12-93 By ek
Registration No. 55-539100
INA J City
W/S 03 S/B 18

PLACE OF USE:
14. Township 18 (N)/S Range 19 (E)/W
15. Section 13
16. Legal description of land: ____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:
17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Dam-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 (Month, Year)

DRILLING FIRM:
24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number
ROC License classification

RECEIVED MAY - 6 1993

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, are set forth in the Well Construction Rules.
6. Section §45-596(D), provides that the Director shall determine if all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

VARIANCE GRANTED

MICROFILMED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
Signature: John L Boyer, Senior Scientist [X] Land Owner [ ] Lessee of wellsite
Date: 5/4/93

DWR 55-40 9/92 (Rev.)

B-3

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007 2183JE3/3

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 188 Joseph City 86032
   Street City State Zip
2. Driller Name: Enviro - Drill
   Address: 3232 E Broadway Phx AZ 85040
   Street City State Zip
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55-539100 (Required)
5. Permit No. ______ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole ~~[illegible]~~ 20 ft. BACKFILL GROUT, 0' to 20'
7. Type of casing —
8. Diameter and length of casing — in. from — to —, — in from — to —
9. Method of sealing at reduction points —
10. Perforated from — to —, from — to —, from — to —.
11. Size of cuts — Number of cuts per foot —
12. If screen was installed: Length — ft. Diam — in. Type ______
13. Method of construction — APR 6 1994
    (drilled, dug, driven, bored, jetted, etc)
14. Date started — 7 (Month) 7 (Day) ~~[illegible]~~ 93 (Year)
15. Date completed 7 (Month) 7 (Day) 93 (Year)
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation: static
19. Remarks: ______

CANCELLED

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No.	55-539100
File No.	A(18-19)13ccd
Received ______	By ______
Entered ______	By ______

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
		SSC ext hard

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name Gabriel D. Escamilla Jr.

ENVIRO DRILL INC.
Street P O BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 7-12-93

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL ABANDONMENT COMPLETION REPORT

A.R.S. §45-594; R12-15-816: Within 30 days after a well is abandoned, the well drilling contractor shall file a well Abandonment Completion Report on a form prescribed and furnished by the Director.

1. Well Registration No. 55- 539100

2. Well Location: 18 N/S (Township) 19 E/W (Range) ~~[illegible]~~ 13 (Section) SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)

3. Owner of the Land:
Name: APS
PO BOX 188 (Address) Joseph City (City), AZ (State) 86032 (Zip)

4. Well Description: 20 (Hole Depth) 12 (Diameter) – (Type of Casing)

5. Reason for abandonment: Shallow Rock, During drilling

6. Prior to abandoment, did the well have 20' of steel surface casing AND 20' of grout in the annular space surrounding the surface casing? Yes_____ No X

7. If the answer to No. 6 is no, was the top 20' of casing removed prior to setting the cement plug? Yes_____ No ✓

8. Identify the materials and methods used to abandon the well: NO well was installed BACK filled with GROUT

9. Is this Abandonment Completion Report filed in accordance with R12-15-816,F.?: Yes X No_____

10. How deep does the cement plug extend below land surface? 20'

11. Was the well backfilled above the cement plug? Yes_____ No N/A

DEPARTMENT OF WATER RESOURCES
APR 6 1994
OPERATIONS DIV.

12. Date abandonment completed: 7-9-93

13. Drilling firm:
Name: ENVIRO-DRILL, INC.
~~P O BOX 24189~~
PHOENIX, AZ 85074
Address City State Zip

CANCELLED

ENTERED APR - 7 1994

DATE: 7-12-93 SIGNATURE OF WELL DRILLER Gabriel A. Escamilla Jr.

DWR 55-58 6/91 (Rev)

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-7

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

18 N/S (N) | 19 E/W (E) | 13
1. Township | 2. Range | 3. Section

4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)

5. County Assessor's I.D.

Book | Map | Parcel

6. County Navajo

NORTH

NW¼	NE¼
SW¼ ⊗	SE¼

WEST / EAST

SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well:
Exempt X Non-exempt ____

8. Action Requested:
Drill New Well X ; or Deepen ____
Replace ____ Modify ____
Well No. 55-____

9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks?
Yes ____ No X

10. Will this proposed well pump Colorado River Water? Yes ____ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City: Phoenix, State: Az Zip: 85072-3999
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City: Joseph City, State: Az Zip: 86032
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City: Joseph City, State: Az Zip: 86032
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 5-7-93 By ck
Input ENTERED JUL 07 1993
Mailed 5-12-93 By ck
Registration No. 55-539101
INA * Cty
W/S 03 S/B 18

PLACE OF USE:
14. Township 18 N/S (N)
Range 19 E/W (E)
15. Section 13
16. Legal description of land:
____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:
17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity:
one (1) to 4 gallons per minute
18. Estimate of total annual pumping:
1.5 to 6.5 acre feet
19. Principal use of water: (be specific)
Part of a seepage collection system for a Bottom Ash Dam-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific)
None
21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated:
N.A.
23. Construction will start about:
May 10, 1993
Month Year

DRILLING FIRM:
24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number

ROC License classification

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, list the registration number of the existing well in item 8.
5. Construction standards for wells, including ... shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall ... that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

MICROFILMED

VARIANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept.
Typed or printed name

Signature: John L. Boyer, Senior Scientist [✓] Land Owner [ ] Lessee of wellsite

5/4/93
Date

DWR 55-40 9/92 (Rev.)

15-Y

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO BOX 188 JOSEPH CITY 86032
   Street City State Zip
2. Driller Name: ENVIRO-DRILL
   Address: 3737 E BROADWAY PHX, AZ 85040
   Street City State Zip
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55-539101 (Required)
5. Permit No. ______ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 12' ft. BACK fill-w-GROUT 0' to 12'
7. Type of casing –
8. Diameter and length of casing – in. from – to –, – in from – to –.
9. Method of sealing at reduction points –
10. Perforated from – to –, from – to –, from – to –.
11. Size of cuts – Number of cuts per foot –
12. If screen was installed: Length – ft. Diam – in. Type –
13. Method of construction –
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 7 (Day) 93 (Year)
15. Date completed 7 (Month) 7 (Day) 93 (Year)
16. Depth to water 1' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground level
18. If flowing well, state method of flow regulation: –

ENTERED APR - 7 1994

19. Remarks:

CANCELLED APR 1994

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539101
File No. A(18-19)13ccd
Received ______ By ______
Entered ______ By ______

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Gabriel A. Escamillo Jr.

Driller Name: EDI

ENVIRO-DRILL, INC.

Street P O BOX 24189

PHOENIX, AZ 85074

City State Zip

Date 2-12-93

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL ABANDONMENT COMPLETION REPORT

A.R.S. §45-594; R12-15-816: Within 30 days after a well is abandoned, the well drilling contractor shall file a well Abandonment Completion Report on a form prescribed and furnished by the Director.

1. Well Registration No. 55- 539101

2. Well Location: 18 (N)/S Township 19 (E)/W Range 13 Section SE 1/4 10 Acre SW 1/4 40 Acre SW 1/4 160 Acre

3. Owner of the Land:
Name: APS
PO BOX 188 Address Joseph City City, AZ State 86032 Zip

4. Well Description: 12' Hole Depth 12" Diameter ____ Type of Casing

5. Reason for abandonment: Shallow Rock, During drilling

6. Prior to abandoment, did the well have 20' of steel surface casing AND 20' of grout in the annular space surrounding the surface casing? Yes____ No X

7. If the answer to No. 6 is no, was the top 20' of casing removed prior to setting the cement plug? Yes____ No ✓

8. Identify the materials and methods used to abandon the well: No well was installed. Back fill with Grout

9. Is this Abandonment Completion Report filed in accordance with R12-15-816,F.?: Yes ✓ No____

10. How deep does the cement plug extend below land surface? 12'

11. Was the well backfilled above the cement plug? Yes____ No N/A

12. Date abandonment completed: 7-9-93

APR 6 1994

13. Drilling firm:
Name: ENVIRO-DRILL, INC.
P O BOX 24189
PHOENIX, AZ 85074
Address City State Zip

CANCELLED

ENTERED APR - 7 1994

DATE: 7-12-93 SIGNATURE OF WELL DRILLER Gabriel A. Escamilla Jr.

DWR 55-58 6/91 (Rev)

FILING FEE $10.00

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

Well Name: TWX-8

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 N/S 2. Range 19 E/W 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book | Map | Parcel
6. County Navajo

NORTH / WEST / EAST / SOUTH — NW¼ NE¼ SW¼ SE¼ — ⊗

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____
8. Action Requested: Drill New Well X; or Deepen ____ Replace ____ Modify ____ Well No. 55-____
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X
10. Will this proposed well pump Colorado River Water? Yes ____ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City, State, Zip: Phoenix, Az 85072-3999
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 5-7-93 By ek
Input ENTERED MAY 14 1993 By
Mailed 5-12-93 By ek
Registration No. 55-539102
INA J City
W/S 03 S/B 18

PLACE OF USE:

14. Township 18 N/S Range 19 E/W
15. Section 13
16. Legal description of land: ____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pond-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: May 10, 1993 (Month Year)

DRILLING FIRM:

24. Enviro Drill, Inc. (Firm)
Mailing Address: P.O. Box 24189
City, State, Zip: Phoenix, Az 85074
DWR License Number: No. 533
ROC License classification

MAY - 6 1993

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditio[illegible]
3. This form is to be used to drill, deepen, replace o[illegible] an Active Management Area.
4. If the well is a replacement, deepening or modifi[illegible] number of the existing well in Item 8.
5. Construction standards for wells, including aban[illegible] Rules.
6. Section §45-596(D), provides that the Director shall determine that all information [illegible] form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

MICROFILMED

VARIANCE GRANTED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. (Typed or printed name) — Signature: John L Boyer, Senior Scientist [X] Land Owner [ ] Lessee of wellsite — Date 5/4/93

DWR 55-40 9/92 (Rev)

B-6

21835E313
1068

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO BOX 188 (Street) Joseph City (City) AZ (State) 86032 (Zip)
2. Driller Name: ENVIRO - DRILL
   Address: 3737 E BROADWAY (Street) phx (City) AZ (State) 85040 (Zip)
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55- 539102 (Required)
5. Permit No. — (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 0 - 21' ft. BACKFILL w. GROUT 0' to 21'
7. Type of casing N/A
8. Diameter and length of casing — in. from — to —, — in from — to —.
9. Method of sealing at reduction points —
10. Perforated from — to —, from — to —, from — to —.
11. Size of cuts — Number of cuts per foot —
12. If screen was installed: Length — ft. Diam — in. Type —
13. Method of construction drilled
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 7 (Day) 93 (Year)
15. Date completed 7 (Month) (Day) 93 (Year)
    APR 6 1994
16. Depth to water 5' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available —
    ENTERED APR - 7 1994
18. If flowing well, state method of flow regulation:
19. Remarks: Backfilled w/grout

CANCELLED

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No.	55-539102
File No.	A(18-19)13ccd
Received	By
Entered	By

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
		SSC ext hard

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel A. Escamilla Jr.

Street: ENVIRO-DRILL, INC. P O BOX 24189 PHOENIX, AZ 85074

City State Zip

Date 2-12-93

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

WELL ABANDONMENT COMPLETION REPORT

A.R.S. §45-594; R12-15-816: Within 30 days after a well is abandoned, the well drilling contractor shall file a well Abandonment Completion Report on a form prescribed and furnished by the Director.

1. Well Registration No. 55- 539102
2. Well Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
3. Owner of the Land:
   Name: APS
   Address: PO Box 188, City: Joseph City, State: AZ, Zip: 86032
4. Well Description: 21 (Hole Depth) 12" (Diameter) ______ (Type of Casing)
5. Reason for abandonment: Shallow Rock, During drilling
6. Prior to abandoment, did the well have 20' of steel surface casing AND 20' of grout in the annular space surrounding the surface casing? Yes_____ No X
7. If the answer to No. 6 is no, was the top 20' of casing removed prior to setting the cement plug? Yes_____ No X
8. Identify the materials and methods used to abandon the well: No well was installed Backfill with Grout
9. Is this Abandonment Completion Report filed in accordance with R12-15-816,F.?: Yes X No_____
10. How deep does the cement plug extend below land surface? 21'
11. Was the well backfilled above the cement plug? Yes_____ No N/A
12. Date abandonment completed: 7-9-93
13. Drilling firm:
    Name: ENVIRO-DRILL, INC.
    P O BOX 24189
    PHOENIX, AZ 85074
    Address City State Zip

DEPARTMENT OF WATER
APR 6 1994
OPERATIONS DIV.

CANCELLED

ENTERED APR - 7 1994

DATE: 7-12-93 SIGNATURE OF WELL DRILLER Gabriel A. Escamilla Jr.

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue, Phoenix, Arizona 85007
Telephone (602) 542-1581
Fax (602) 256-0506

DEPARTMENT OF WR
OCT 3 - 1994
OPERATIONS DIV.

August 1, 1994

FIFE SYMINGTON
Governor

RITA P. PEARSON
Director

TWX-9

A 180 190 13 C C D WR 539864 BOTH
AZ PUBLIC SERVICE 12
SEEPAGE - TWX-9
PO BOX 188
JOSEPH CITY AZ 86032 533

"already Filled for TWX-9"

Dear Well Owner:

The Department of Water Resources issued drilling authority one year ago for the well referenced by the file and registration number as indicated on the above label. To date, our records show that this well has not been drilled.

The registered well owner must submit a **Completion Report** which specifies the data relating to the pump equipment, with thirty (30) days of installation. There is no time limit by which you must install any pump equipment, but the **Completion Report** (form enclosed) must be submitted within thirty (30) days of installation.

If your well has been drilled, your file needs the above mentioned report to bring the well into compliance with the law, and you should ensure that this is done.

If you have not drilled your well, but is is your intention to do so in the future, this is to advise you that you must refile a **Notice of Intent to Drill** in order to obtain authority to commence drilling.

The Department's file numbering system is explained in detail on the reverse side of this letter.

Your immediate assistance is appreciated. If you have any questions, or need further information, please contact Carlane Stephan at (602) 542-1581.

Sincerely,

Bruce S. D.

Bruce S. Davis
Chief, Operations Division

BSD:dl

DWR-55-62-6/92(Rev.)
12-month letter

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES

Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-9
NC

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 N | 2. Range 19 W | 3. Section 13

4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)

5. County Assessor's I.D.

Book | Map | Parcel

6. County Navajo

NORTH

NW¼ NE¼

WEST EAST

SW¼ SE¼

⊗

SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well:
Exempt X Non-exempt ____

8. Action Requested:
Drill New Well X; or Deepen ____
Replace ____ Modify ____
Well No. 55-____

9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks?
Yes ____ No X

10. Will this proposed well pump Colorado River Water? Yes ____ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ____

Arizona Public Service Co.
Name
P.O. Box 53999 M/S 9368
Mailing Address
Phoenix, Az 85072-3999
City State Zip

Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:

Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip

Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:

Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip

Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE	
Office Record	
File No.	A (18-19)13CCD
Filed	7-8-93 By ck
Input	ENTERED JUL 14 1993
Mailed	7-12-93 By ck
Registration No.	55-539864
INA	—
W/S	03 S/B

PLACE OF USE:

14. Township 18 N
Range 19 W
15. Section 13
16. Legal description of land:
____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity:
one (1) to 4 gallons per minute
18. Estimate of total annual pumping:
1.5 to 6.5 acre feet
19. Principal use of water: (be specific)
Part of a seepage collection system for a Bottom Ash Pam-Water returned to the Bottom Ash Pa
20. Other uses intended: (be specific)
None
21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated:
N.A.
23. Construction will start about:
July 9, 1993
Month Year

DRILLING FIRM:

24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number

ROC License Classification

RECEIVED
JUL 8 1993
OPERATIONS DIV.

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registation number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — John L Boyer — Senior Scientist — 7/8/93
Typed or printed name — Signature of Land Owner or Lessee of wellsite — Date

B-6

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

2324JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: P.O Box 53999 m/s 9368 (Street) Phx. (City) AZ. (State) 85072-3999 (Zip)
2. Driller Name: Manuel Hernandez
   Address: 3737 E. Broadway Rd. (Street) Phx. (City) AZ. (State) 85040 (Zip)
3. Location: 18 (N)/S Township; 19 (E)/W Range; 13 Section; SE 1/4 10-acre; SW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55-539864 (Required)
5. Permit No. 533 (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 40', ___ in from ___ to ___.
9. Method of sealing at reduction points NONe
10. Perforated from — to —, from — to —, from — to —.
11. Size of cuts .20 Number of cuts per foot 12"
12. If screen was installed: Length 20 ft. Diam 5 in. Type PVC
13. Method of construction Mud drilling
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 24 (Day) 1993 (Year)
15. Date completed 7 (Month) 24 (Day) 1993 (Year)
16. Depth to water 25' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation:
19. Remarks: Static
    Not flowing

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539864
File No. A(18-19)13ccd
Received By
Entered By ENTERED AUG 19 1994

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	25	Silty clay / Shales
25	40	weathered sandstone

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel D. Evans [illegible]

ENVIRO-DRILL, INC.
Street P O BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 8-20-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-10
DL

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D.
   Book | Map | Parcel
6. County Navajo

NORTH

NW¼	NE¼
SW¼ ⊗	SE¼

WEST EAST

SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ______
8. Action Requested: Drill New Well X ; or Deepen ______ Replace ______ Modify ______ Well No. 55-______
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ______ No X
10. Will this proposed well pump Colorado River Water? Yes ______ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ______
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 53999 M/S 9368
    City, State, Zip: Phoenix, Az 85072-3999
    Telephone: (602) 250-3196 John L. Boyer
12. Owner or Lessee of Land at wellsite:
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 188
    City, State, Zip: Joseph City, Az 86032
    Telephone: (602) 288-1206 Conrad Spencer
13. Owner of well:
    Name: Arizona Public Service Co.
    Mailing Address: P.O. Box 188
    City, State, Zip: Joseph City, Az 86032
    Telephone: (602) 288-1206 Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 7-8-93 By ck
Input ENTERED JUL 14 1993
Mailed 7-12-93 By ck
Registration No. 55-539863
INA —
W/S 03 S/B ______

PLACE OF USE:

14. Township 18 (N)/S Range 19 (E)/W
15. Section 13
16. Legal description of land: ______ 1/4 (10 Acre) ______ 1/4 (40 Acre) ______ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
    Depth 30 to 40 feet
    Type of Casing PVC-Sch 40
    Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pond-Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: July 9, 1993 (Month Year)

DRILLING FIRM:

24. Firm: Enviro Drill, Inc.
    Mailing Address: P.O. Box 24189
    City, State, Zip: Phoenix, Az 85074
    DWR License Number: No. 533
    ROC License classification ______

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registation number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

RECEIVED JUL 8 1993

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
John L. Boyer — Senior Scientist — Signature of Land Owner or Lessee of wellsite
7/8/93 — Date

B-3

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

2323JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: P.O. Box 53999 m/s 9368 Phx. AZ. 85072-3999
   (Street, City, State, Zip)
2. Driller Name: MANUEL HERNANDEZ
   Address: 3737 E. Broadway Rd. Phx. AZ. 85040
   (Street, City, State, Zip)
3. Location:

Township	Range	Section	10-acre	40-acre	160-acre
18 (N)/S	19 (E)/W	13	SE 1/4	SW 1/4	SW 1/4

4. Well Registration No. 55-539863 (Required)
5. Permit No. 533 (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 35 ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 40', ____ in from ____ to ____.
9. Method of sealing at reduction points NONE
10. Perforated from ____ to ____, from ____ to ____, from ____ to ____.
11. Size of cuts .20 Number of cuts per foot 12"
12. If screen was installed: Length 15 ft. Diam 5 in. Type PVC
13. Method of construction Mud Drilling
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 25 (Day) 1993 (Year)
15. Date completed 7 (Month) 25 (Day) 1993 (Year)
16. Depth to water 25' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation: ____
19. Remarks: Static
    Not FLOWING

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539863
File No. A(18-19)13ccd
Received ENTERED By
Entered By AUG 1 9 1994

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	25	silty clay / shale
25	35	weathered sandstone

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel R. Encarnación

ENVIRO-DRILL, INC.

Street P O BOX 24189

PHOENIX, AZ 85074

City State Zip

Date 8-20-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-11

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13

4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)

5. County Assessor's I.D.

Book | Map | Parcel

6. County Navajo

NORTH

NW¼	NE¼
SW¼ ⊗	SE¼

WEST — EAST

SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____

8. Action Requested: Drill New Well X ; or Deepen ____ Replace ____ Modify ____ Well No. 55-____

9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X

10. Will this proposed well pump Colorado River Water? Yes ____ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Arizona Public Service Co.
Name
P.O. Box 53999 M/S 9368
Mailing Address
Phoenix, Az 85072-3999
City State Zip
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Arizona Public Service Co.
Name
P.O. Box 188
Mailing Address
Joseph City, Az 86032
City State Zip
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 7-8-93 By ek
Input ENTERED JUL 14 1993 By
Mailed 7-12-93 By ek
Registration No. 55-539861
INA —
W/S 03 S/B ____

PLACE OF USE:

14. Township 18 (N)/S
Range 19 (E)/W

15. Section 13

16. Legal description of land:
____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity:
one (1) to 4 gallons per minute

18. Estimate of total annual pumping:
1.5 to 6.5 acre feet

19. Principal use of water: (be specific)
Part of a seepage collection system for a Bottom Ash Pond-Water returned to th

20. Other uses intended: (be specific) Bottom Ash Po
None

21. Number of Multiple Drinking Water connections, if any: N.A.
(See item 5 on reverse side)

22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated:
N.A.

23. Construction will start about:
July 9, 1993
Month Year

DRILLING FIRM:

24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number

ROC License classification

RECEIVED JUL 8 1993 OPERATIONS DIV.

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registation number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental — John L Boyer — Senior Scientist — 7/8/93
Date

B-5

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

2323JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO. Box 53999 m/s 9368 Phx. Az. 85072-3999
   Street City State Zip
2. Driller Name: Enviro Drilling Inc
   Address: 3737 E Broadway Rd. Phx. Az. 85040
   Street City State Zip
3. Location: 18 N/S (N) Township; 19 E/W (E) Range; 13 Section; SE 1/4 10-acre; SW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55-539861 (Required)
5. Permit No. 533 (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 40 ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 40, ____ in from ____ to ____.
9. Method of sealing at reduction points NONE
10. Perforated from — to —, from — to —, from — to —
11. Size of cuts .20 Number of cuts per foot 12"
12. If screen was installed: Length 20 ft. Diam 5 in. Type PVC
13. Method of construction Mud Drilling
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 23 (Day) 1993 (Year)
15. Date completed 7 (Month) 23 (Day) 1993 (Year)
16. Depth to water 25" ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation:
19. Remarks: Static
    Not Flowing

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539861
File No. A(18-19)13ccd
Received ____ By ____
Entered ENTERED AUG 1 9 1994

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	25	silty clay / shales
25	40	weathered sandstone
		increasing in hardness
		with depth.
	25	GW

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel R. Escamilla

ENVIRO-DRILL, INC.
Street P O BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 8-20-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-12

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 N/S 2. Range 19 E/W 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book ___ Map ___ Parcel ___
6. County Navajo

NORTH / WEST / EAST / SOUTH — NW¼ NE¼ SW¼ SE¼ (well location marked in SW¼)

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ___
8. Action Requested: Drill New Well X ; or Deepen ___ Replace ___ Modify ___ Well No. 55-___
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ___ No X
10. Will this proposed well pump Colorado River Water? Yes ___ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ___
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City, State, Zip: Phoenix, Az 85072-3999
Telephone: (602) 250-3196
John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206
Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 7-8-93 By ek
Input ENTERED JUL 14 1993
Mailed 7-12-93 By
Registration No. 55-539862
INA —
W/S 03 S/B ___

PLACE OF USE:

14. Township 18 N/S Range 19 E/W
15. Section 13
16. Legal description of land: ___ 1/4 (10 Acre) ___ 1/4 (40 Acre) ___ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:

17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pond-Water returned to the Bottom Ash Pon
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: July 9, 1993 (Month, Year)

DRILLING FIRM:

24. Firm: Enviro Drill, Inc.
Mailing Address: P.O. Box 24189
City, State, Zip: Phoenix, Az 85074
DWR License Number No. 533
ROC License classification

RECEIVED JUL 8 1993 OPERATIONS DIV.

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registation number of the existing well in item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
John L Boyer — Signature of Land Owner or Lessee of wellsite — Senior Scientist
7/8/93 — Date

B-4

ARIZONA DEPARTMENT OF WATER RESOURCES

15 South 15th Avenue
Phoenix, Arizona 85007

2323JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: P.O. Box 53999 m/s 9368 Phx. AZ. 85072-3999
   Street City State Zip
2. Driller Name: Manuel Hernandez
   Address: 3737 E Broadway Rd. Phx. AZ. 85040
   Street City State Zip
3. Location: 1S (N)/S Township; 19 (E)/W Range; 13 Section; SE 1/4 10-acre; SW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55- 539862 (Required)
5. Permit No. 533 (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 40' ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 40', ___ in from ___ to ___.
9. Method of sealing at reduction points NONe
10. Perforated from — to —, from — to —, from — to —.
11. Size of cuts .20 Number of cuts per foot 12"
12. If screen was installed: Length 20 ft. Diam 5 in. Type PVC
13. Method of construction Auger
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7 (Month) 22 (Day) 1993 (Year)
15. Date completed 7 (Month) 22 (Day) 1993 (Year)
16. Depth to water 25 ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level
18. If flowing well, state method of flow regulation:
19. Remarks: Static
    Not flowing

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No 55-539862
File No. A(18-19)13ccd
Received ENTERED AUG 1 0 1994
Entered ___ By ___

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	25	silty clay / shales
25	40	weathered sandstone
		increasing in hardness
		with depth
	25	GW

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel R. [illegible]

Street ENVIRO-DRILL, INC.
P O BOX 24189
PHOENIX, AZ 85074

City State Zip

Date 8-20-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-13

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book | Map | Parcel
6. County Navajo

NORTH

NW¼ NE¼

WEST EAST

SW¼ ⊗ SE¼

SOUTH

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ____
8. Action Requested: Drill New Well X ; or Deepen ____ Replace ____ Modify ____ Well No. 55-____
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ____ No X
10. Will this proposed well pump Colorado River Water? Yes ____ No X (See item 10 on reverse side)

11. Applicant: Owner X Lessee ____
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City: Phoenix, State: Az Zip: 85072-3999
Telephone: (602) 250-3196 John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City: Joseph City, State: Az Zip: 86032
Telephone: (602) 288-1206 Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City: Joseph City, State: Az Zip: 86032
Telephone: (602) 288-1206 Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 7-8-93 By ek
Input ENTERED JUL 14 1993
Mailed 7-12-93 By ek
Registration No. 55-539860
INA —
W/S 03 S/B ____

PLACE OF USE:
14. Township 18 (N)/S Range 19 (E)/W
15. Section 13
16. Legal description of land: ____ 1/4 (10 Acre) ____ 1/4 (40 Acre) ____ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:
17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pond - Water returned to the Bottom Ash Pond
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: July (Month) 9, 1993 (Year)

DRILLING FIRM:
24. Enviro Drill, Inc.
Firm
P.O. Box 24189
Mailing Address
Phoenix, Az 85074
City State Zip
No. 533
DWR License Number
____
ROC License classification

RECEIVED JUL 8 1993 OPERATIONS DIV.

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, deepening or modification of an existing well, provide the registration number of the existing well in item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), provides that the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept. — Typed or printed name
[signature] — Signature [ ] Land Owner [ ] Lessee of wellsite — Senior Scientist
7/8/93 — Date

B-10-

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

A 323JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS
   Address: PO Box 53999 M/S 9368 (Street) PHX. (City) AZ. (State) 85072-3999 (Zip)
2. Driller Name: ENVIRO-DRILL, INC
   Address: 3737 E Broadway Rd (Street) PHX. (City) AZ. (State) 85040 (Zip)
3. Location: 18 N/S (Township) 19 E/W (Range) 13 (Section) SE 1/4 (10-acre) SW 1/4 (40-acre) SW 1/4 (160-acre)
4. Well Registration No. 55-539860 (Required)
5. Permit No. 533 (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 40' ft.
7. Type of casing 5" PVC
8. Diameter and length of casing 5 in. from 0 to 40, ____ in from ____ to ____.
9. Method of sealing at reduction points NONE
10. Perforated from — to —, from — to —, from — to —.
11. Size of cuts .020 Number of cuts per foot 12"
12. If screen was installed: Length 20 ft. Diam 5 in. Type PVC
13. Method of construction AUGER
    (drilled, dug, driven, bored, jetted, etc)
14. Date started 7-21 (Month) ____ (Day) 93 (Year)
15. Date completed 7-21 (Month) ____ (Day) 93 (Year)
16. Depth to water 25' ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available
    Ground Level.
18. If flowing well, state method of flow regulation:
19. Remarks: Static
    Not Flowing

DWR-55-55-7/91 (Rev.)

DO NOT WRITE IN THIS SPACE OFFICE RECORD	
Registration No.	55-539860
File No.	A(18-19)13ccd
Received	By
Entered	ENTERED AUG 1 9 1994 By

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
0	25'	Silty Clay / Shales
25'	40	Weathered Sand stone increasing in
		hardness with depth.
		GW @ 25 ft

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel R. Escamilla

ENVIRO-DRILL, INC.

Street P O BOX 24189

PHOENIX, AZ 85074

City State Zip

Date 9-20-93

FILING FEE $10.00

ARIZONA DEPARTMENT OF WATER RESOURCES
Operations Division
15 South 15th Avenue
Phoenix, Arizona 85007

FILING FEE $10.00

Well Name: TWX-14

NOTICE OF INTENTION TO DRILL A WELL OUTSIDE OF AN ACTIVE MANAGEMENT AREA

Section §45-596, Arizona Revised Statutes, provides: In an area not subject to Active Management, a person may not drill, deepen, or modify any well, without first filing a Notice of Intention to Drill with the Department.

WELL/LAND LOCATION:

1. Township 18 (N)/S | 2. Range 19 (E)/W | 3. Section 13
4. SE 1/4 (10 Acre) SW 1/4 (40 Acre) SW 1/4 (160 Acre)
5. County Assessor's I.D. Book ___ Map ___ Parcel ___
6. County Navajo

NORTH / WEST / EAST / SOUTH — NW¼, NE¼, SW¼, SE¼ — ⊗ (in SW¼)

INDICATE WELL LOCATION BY X
(Above diagram represents one 640 acre section)

7. Type of well: Exempt X Non-exempt ___
8. Action Requested: Drill New Well X ; or Deepen ___ Replace ___ Modify ___ Well No. 55- ___
9. Is the proposed wellsite within 100 feet of a septic tank system, sewage disposal area, landfill, hazardous waste facility, storage area of hazardous materials or petroleum storage areas and tanks? Yes ___ No X
10. Will this proposed well pump Colorado River Water? Yes ___ No X
(See item 10 on reverse side)

11. Applicant: Owner X Lessee ___
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 53999 M/S 9368
City, State, Zip: Phoenix, Az 85072-3999
Telephone: (602) 250-3196 John L. Boyer

12. Owner or Lessee of Land at wellsite:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206 Conrad Spencer

13. Owner of well:
Name: Arizona Public Service Co.
Mailing Address: P.O. Box 188
City, State, Zip: Joseph City, Az 86032
Telephone: (602) 288-1206 Conrad Spencer

DO NOT WRITE IN THIS SPACE
Office Record
File No. A(18-19)13CCD
Filed 7-8-93 By ck
Input ENTERED JUL 14 1993
Mailed 7-12-93 By ck
Registration No. 55 539859
INA —
W/S 03 S/B ___

PLACE OF USE:
14. Township 18 (N)/S, Range 19 (E)/W
15. Section 13
16. Legal description of land: ___ 1/4 (10 Acre) ___ 1/4 (40 Acre) ___ 1/4 (160 Acre)

DESCRIPTION OF PROPOSED WELL:
17. Diameter 5 inches
Depth 30 to 40 feet
Type of Casing PVC-Sch 40
Design Pump Capacity: one (1) to 4 gallons per minute
18. Estimate of total annual pumping: 1.5 to 6.5 acre feet
19. Principal use of water: (be specific) Part of a seepage collection system for a Bottom Ash Pam-Water returned to the Bottom Ash Pa
20. Other uses intended: (be specific) None
21. Number of Multiple Drinking Water connections, if any: N.A. (See item 5 on reverse side)
22. If use includes irrigation, state to nearest tenth, the number of acres to be irrigated: N.A.
23. Construction will start about: July 9, 1993 (Month, Year)

DRILLING FIRM:
24. Firm: Enviro Drill, Inc.
Mailing Address: P.O. Box 24189
City, State, Zip: Phoenix, Az 85074
DWR License Number: No. 533
ROC License classification

RECEIVED 8 1993

VARIANCE GRANTED

GENERAL INSTRUCTIONS

1. Fill out this form in DUPLICATE and send WITH $10.00 FEE to 15 South 15th Avenue, Phoenix, AZ 85007.
2. For specific instructions, limitations and conditions, see the reverse side of this form.
3. This form is to be used to drill, deepen, replace or modify a well outside of an Active Management Area.
4. If the well is a replacement, depening or modification of an existing well, provide the registation number of the existing well in Item 8.
5. Construction standards for wells, including abandonment, shall be in accordance with Department Rules.
6. Section §45-596(D), providesthat the Director shall determine that all information required on form has been submitted. If not, the person filing will be notified, and the drilling, deepening, or modification of the well may not proceed.

MICROFILMED

I state that this Notice is filed in compliance with A.R.S. §45-596 and is complete and correct to the best of my knowledge and belief and that I understand the limitations under which I must operate this well as set forth on the reverse side of this form.

John L. Boyer, APS Environmental Dept — John L Boyer — Senior Scientist — 7/8/93
Signature Land Owner / Lessee of wellsite — Date

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

A3A3JE505
APS

WELL DRILLER REPORT

This report should be prepared by the driller in all detail and filed with the Department within 30 days following completion of the well.

1. Owner Name: APS.
   Address: PO Box 5399 M/S 9368 Phx Az 85072-3999
   Street City State Zip
2. Driller Name: Enviro-Drill, Inc.
   Address: 3737 E. Broadway Rd Phx 85040
   Street City State Zip
3. Location: 18 N/S Township; 19 E/W Range; 13 Section; SE 1/4 10-acre; SW 1/4 40-acre; SW 1/4 160-acre
4. Well Registration No. 55- 539859 (Required) Boring Not Drilled. Well was not installed.
5. Permit No. ______ (If issued)

DESCRIPTION OF WELL

6. Total depth of hole 0 ft.
7. Type of casing ______
8. Diameter and length of casing ____ in. from ____ to ____, ____ in from ____ to ____.
9. Method of sealing at reduction points ______
10. Perforated from ____ to ____, from ____ to ____, from ____ to ____.
11. Size of cuts ______ Number of cuts per foot ______
12. If screen was installed: Length ____ ft. Diam ____ in. Type ______
13. Method of construction ______
    (drilled, dug, driven, bored, jetted, etc)
14. Date started ______
    Month Day Year
15. Date completed ______
    Month Day Year
16. Depth to water CANCELLED ft. (If flowing well, so state)
17. Describe point from which depth measurements were made, and give sea-level elevation if available ______
18. If flowing well, state method of flow regulation: ______
19. Remarks: Not Drilled.

DO NOT WRITE IN THIS SPACE
OFFICE RECORD

Registration No. 55-539859
File No. A(18-19)13ccd
Received ______ By ______
Entered ENTERED SEP 1 2 1994

DWR-55-55-7/91 (Rev.)

LOG OF WELL

Indicate depth at which water was first encountered, and the depth and thickness of water bearing beds. If water is artesian, indicate depth at which encounterd, and depth to which it rose in well.

From (feet)	To (feet)	Description of formation material
		Boring Not Drilled

I hereby certify that this well was drilled by me (or under my supervision), and that each and all statements herein contained are true to the best of my knowledge and belief.

Driller Name: Gabriel R. Escamilla

Po Box 24189

Street

Phx AZ 85074

City State Zip

Date 8-20-93

ARIZONA DEPARTMENT OF WATER RESOURCES
15 South 15th Avenue
Phoenix, Arizona 85007

2323JE505

WELL ABANDONMENT COMPLETION REPORT

A.R.S. §45-594; R12-15-816: Within 30 days after a well is abandoned, the well drilling contractor shall file a well Abandonment Completion Report on a form prescribed and furnished by the Director.

1. **Well Registration No. 55-** 539859
2. **Well Location:** 18 (N)/S Township; 19 (E)/W Range; 13 Section; SE 1/4 10 Acre; SW 1/4 40 Acre; SW 1/4 160 Acre
3. **Owner of the Land:**
   Name: APS
   Address: PO Box 5399 M/S 9368 City: Phx State: Az Zip: 85072-3999
4. **Well Description:** NOT DRILLed
   Hole Depth / Diameter / Type of Casing
5. **Reason for abandonment:** ______
6. Prior to abandonment, did the well have 20' of steel surface casing **AND** 20' of grout in the annular space surrounding the surface casing? Yes____ No____
7. If the answer to No. 6 is no, was the top 20' of casing removed prior to setting the cement plug? Yes____ No____
8. Identify the materials and methods used to abandon the well: ______
9. Is this Abandonment Completion Report filed in accordance with R12-15-816,F.?: Yes____ No____
10. How deep does the cement plug extend below land surface? ______
11. Was the well backfilled above the cement plug? Yes____ No____

    ED

12. Date abandonment completed: ______
13. **Drilling firm:**
    Name: Enviro-Drill, Inc.
    Address: PO Box 24189 City: Phx State: Az Zip: 85074

ENTERED SEP 12 1994

DATE: 8-16-94 SIGNATURE OF WELL DRILLER Gabriel A. Escamilla Jr.

DWR 55-58-6/91 (Rev)

ATTACHMENT C

Photograph Log

Photograph Log

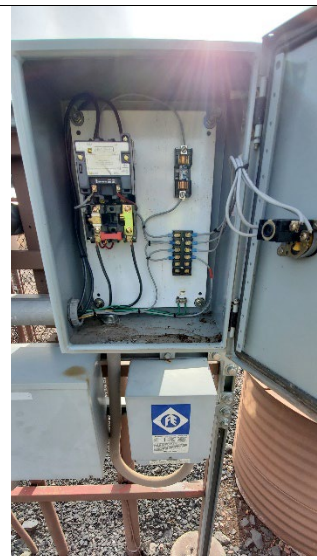
Photograph 1. Flow meter for TWX Area, Contains 8 wells, labeled A-H, that pump to a common sump	

Photograph 21. Petroglyph control panel	

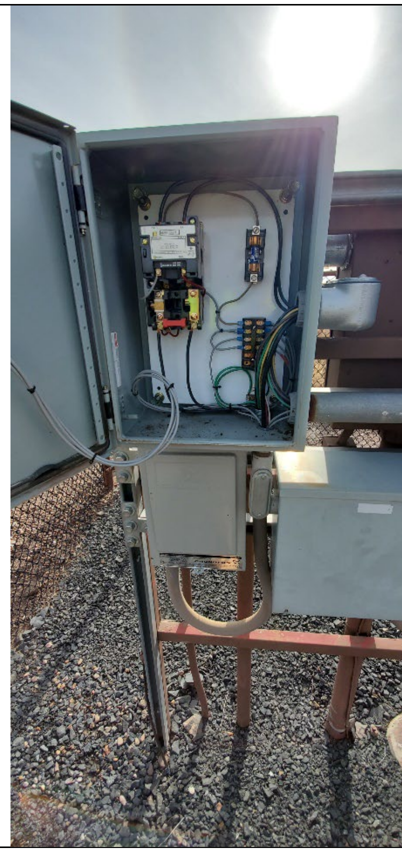
Photograph 22. Alternate view of Petroglyph Control Panel	
Photograph 23. Petroglyph Sump Flow Meter	

Photograph Log

Photograph 24. Tanner Wash Sump and Control Panels	

Photograph 25. Tanner Wash Sump Control Panel for Pump A	

Photograph Log

Photograph 26. Tanner Wash Sump Control Panel for Pump B	

Photograph 27. Tanner Wash Control Panels for Pumps A and B	

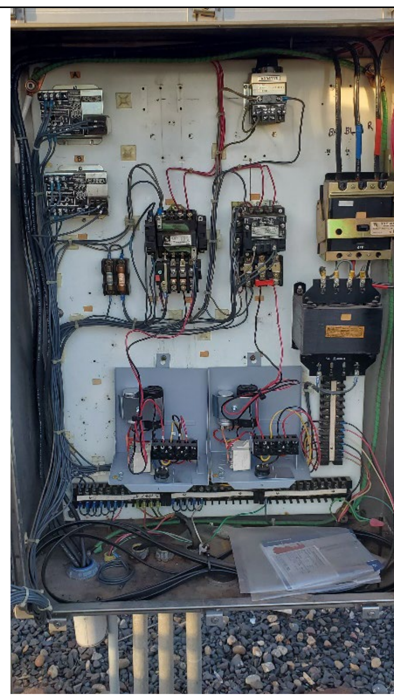
Photograph Log

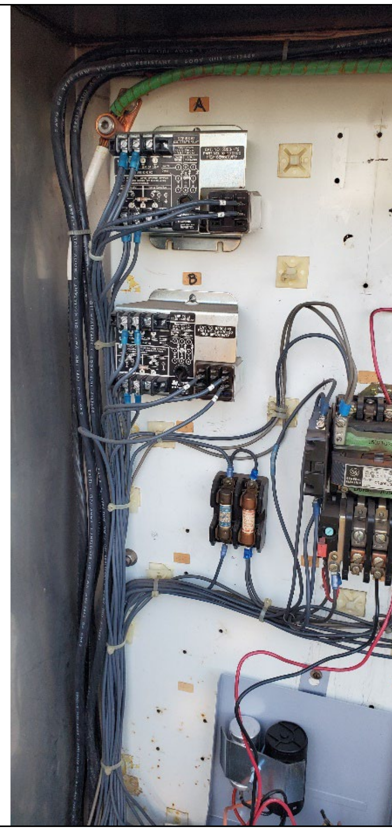
Photograph 28. Tanner Wash Extraction Pump Piping	
Photograph 29. Tanner Wash Sump with Pumps	

Photograph Log

Photograph 30. Tanner Wash Flow Meter	
Photograph 31. Tanner Wash Level Control Meter located in between control boxes for pump A & B	

Photograph Log

Photograph 32. Pump A Start Box at Tanner Wash Sump	
Photograph 33. Toe Drain Sump Control Panel	

Photograph 34. Toe Drain Sump Control Panel Close-up	

Photograph 35. TOE Sump Extraction Piping Overview	

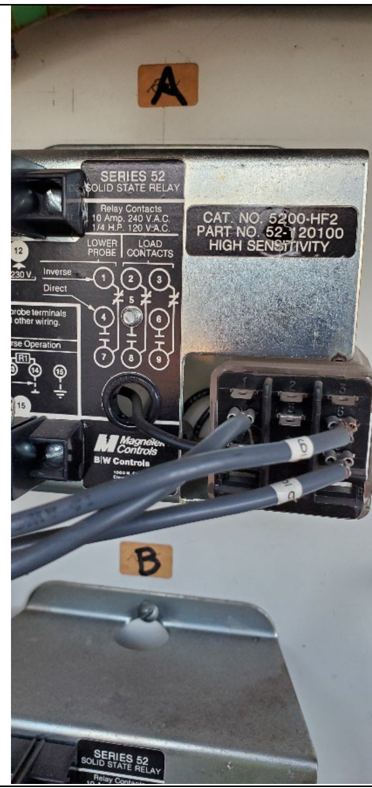
Photograph 36. TOE sump flow meter	

Photograph 37. TOE Sump Flow Meter Close-Up	

Photograph Log

Photograph 38.

TOE Sump Level Control Relay



Photograph 39.

TOE Piping at Sump

Appendix N

Evaluation of Reduction/Oxidation Conditions in Groundwater at the Bottom Ash Pond

Technical Memorandum

To:	Arizona Public Service Company	**Project No:** 14-2018-2040	
By:	Maren Henley, PE	**Reviewed by:** Bruce Wielinga	
Tel:	(602) 733-6000	**CC:** File	
Date:	May 27, 2021		

Re: **EVALUATION OF REDUCTION/OXIDATION CONDITIONS IN GROUNDWATER AT THE BOTTOM ASH POND**
Arizona Public Service Cholla Power Plant – Navajo County, Arizona

1.0 INTRODUCTION

This technical memorandum (Tech Memo) documents an evaluation of the reduction/oxidation (redox) processes in groundwater downgradient of the Bottom Ash Pond (BAP), located at the Arizona Public Service Company (APS) Cholla Power Plant in Navajo County, Arizona (the Site). This evaluation was prepared pursuant to Coal Combustion Residuals (CCR) Rule requirements for groundwater monitoring and corrective action detailed in 40 Code of Federal Regulations Sections (§) 257.90 through 257.98 (Federal Register, 2020).

Site background, CCR groundwater monitoring system, and historical operational information are presented in the *Annual Groundwater Monitoring and Corrective Action Report for 2020* (Wood Environment & Infrastructure Solutions, Inc. [Wood], 2021). The subject of this investigation is the BAP, a CCR unit which primarily receives bottom ash slurry from the plant (Figure 1). The BAP impounds bottom ash slurry using a dam system comprised of an eastern and southern dam. The eastern dam is constructed on the Chinle geologic unit, and Holbrook and Moqui members of the Moenkopi geologic unit, while the southern dam is constructed on the Tanner Wash Alluvium and Moqui geologic unit. The southern BAP dam has a clay core which extends through alluvium to bedrock where the alluvium was less than 20 feet (ft) thick at the time of construction. In areas where the alluvium was greater than 20 ft thick, a slurry cutoff wall was constructed that generally extended to bedrock. Due to the depths involved, the cutoff wall does not extend to bedrock in the middle of the channel underlying the southern dam. There is an approximately 10 to 20-ft thick layer of alluvium below the base of the cutoff wall (at an elevation of 4,980 ft above mean sea level) in this area. Groundwater near the BAP generally flows south-southwest through the Tanner Wash Alluvium to its confluence with the Little Colorado River Alluvium.

2.0 BASIS FOR INVESTIGATION

This evaluation was conducted to evaluate the relationship between cobalt concentrations and redox conditions in groundwater downgradient of the BAP. Cobalt, a constituent regulated under the CCR Rule's Appendix IV list, is present in groundwater downgradient of the BAP at concentrations exceeding the groundwater protection standard (GWPS) for cobalt of 0.006 milligrams per liter (mg/L). Based on the results of routine groundwater sampling conducted since the GWPS exceedance was declared for cobalt in October

4600 East Washington Street, Suite 600
Phoenix, Arizona 85034
Tel (602) 733-6000
Fax (602) 733-6100
www.woodplc.com

2018, detected cobalt concentrations at compliance and supplementary monitoring wells downgradient of the BAP have ranged from 0.00079 mg/L at W-308 in February 2019 to 0.084 mg/L at W-307 in April 2020. Figure 1 depicts cobalt concentrations in groundwater based on groundwater sampling events conducted in April and October 2020, which are comparable to concentrations observed in prior sampling events.

Previous investigations suggest the elevated cobalt concentrations are not directly attributable to water in the BAP (Wood, 2020) because cobalt concentrations detected in BAP water samples are less than concentrations routinely detected in groundwater. Available BAP water analysis data indicate cobalt concentrations range from 0.00099 to 0.0012 mg/L. A potential cause may be the mobilization of cobalt from solid materials underlying the BAP (e.g., bottom ash, alluvium, or the Moqui) as a result of reducing conditions in groundwater (Wood, 2020). To further evaluate this possibility, groundwater samples collected from BAP monitoring wells in April and October 2020 were analyzed for several constituents which are useful in assessing the redox conditions in groundwater. These constituents include:

- Dissolved and total concentrations of iron, manganese, arsenic, and cobalt;
- Nitrate, ammonia, total organic carbon (TOC), dissolved organic carbon (DOC); and
- Ferrous iron (Fe^{2+}) and nitrite (NO_2^-) using field speciation sampling kits.

These constituents can indicate the nature of redox conditions and the speciation of trace metals relevant to cobalt mobilization. TOC and DOC can contribute to the development of reducing conditions. Ammonia and nitrate are good indicators of redox conditions due to the nitrate (NO_3^-; the most oxidized N species) and ammonia (NH_3, a reduced N species) redox couple. Under aerobic conditions, ammonia can be rapidly oxidized to nitrate due to the activity of ammonia-oxidizing bacteria. Thus, the presence of ammonia combined with absence of nitrate can also indicate reducing conditions. Field measurements of dissolved oxygen (DO), oxidation-reduction potential (ORP), and pH were also collected to further assess the groundwater redox conditions.

3.0 DESCRIPTION OF INVESTIGATION ACTIVITIES

The monitoring wells selected for redox analyses are depicted on Figure 1. Groundwater samples were collected using dedicated low-flow sampling pumps and analyzed according to the sampling and analysis plan developed for the Site (Montgomery & Associates, 2015). Samples collected for dissolved inorganic compound analysis were field filtered using a single use 0.45-micron filter and immediately preserved with nitric acid. Each sample was labeled and placed on ice for transport to TestAmerica Laboratories, Inc., an Arizona Department of Health-certified laboratory (AZ0728) for analysis. Field speciation analyses for Fe^{2+} and NO_2^- were performed using a Hach® DR 900 colorimeter, and field measurements of DO, ORP, and pH were collected using a field-calibrated YSI multiparameter meter and in-line flow through cell connected to the pump discharge tubing.

4.0 SAMPLING RESULTS AND ANALYSIS

This section provides a summary of the results of the investigation and a discussion of their relevance. Attachment A presents the laboratory analytical report for the collected samples, while Table 1 summarizes the laboratory results and field measurements. Figure 1 depicts concentrations of select constituents measured in the groundwater samples collected from the subject wells.

4.1 Results and Discussion

Cobalt is a redox sensitive metal with two oxidations states in the environment, +2 and +3, with Co^{2+} being the dominant form in soil solution. Cobalt as Co^{2+} associates preferentially with oxides of iron and manganese due to chemisorption and co-precipitation (McBride, 1994). Cobalt and manganese are closely associated in many soils because they have similar chemical properties. In addition, there is evidence that on Mn oxides, Co^{2+} is oxidized and strongly bound as Co^{3+} or precipitated as $CoOOH_{(s)}$ (Alloway, 2013). Thus, under reducing condition the concomitant reduction of Fe and Mn oxides and Co(III) substantially increases the solubility of all three metals.

Concentrations of dissolved inorganics were comparable to respective total (unfiltered) concentrations, indicating arsenic, cobalt, iron, and manganese are present in groundwater downgradient of the BAP predominately as dissolved constituents. The exception is the April 19, 2020 sample collected from M-52A, where total iron was detected at 5.0 mg/L and dissolved iron was detected at 2.9 mg/L. These were the highest iron concentrations detected at any of the BAP wells, and the subsequent sample collected from M-52A in October 2020 indicated total and dissolved iron concentrations of 0.41 and 0.21 mg/L, respectively. It is possible that the high iron concentrations detected in the April 2020 sample resulted from high water turbidity and the presence of colloidal iron in the samples as the turbidity in the April 2020 sample was 22.1 Nephelometric Turbidity Units, which was the highest result for any of the samples. APS site personnel have reported that historical turbidity concentrations at M-52A are typically higher than other monitoring wells at the BAP.

The pH of the groundwater samples ranged from 6.7 to 7.8 standard units, indicating the concentrations of dissolved inorganics in the groundwater samples are not the result of mineral phase dissolution by low pH groundwater. However, the presence of dissolved iron at neutral to slightly alkaline pH suggests the presence of ferrous iron (Fe^{2+}) as ferric iron (Fe^{3+}) under these pH conditions rapidly hydrolyzes with water to form sparingly soluble Fe (oxy)hydroxides. The presence of Fe^{2+} is indicative of the reductive dissolution of iron (oxy)hydroxide mineral phases and these conditions would also support the reductive dissolution of Mn oxides and conversion of Co^{3+} to Co^{2+}.

The next highest iron concentrations were detected in the October 2020 sample from MW-69A at 2.3 mg/L (total iron) and 1.1 mg/L (dissolved iron). Dissolved iron was observed above the analytical laboratory method detection limit (MDL) at five additional wells including W-302, W-304, W-305, W-306 and W-307. As discussed above, the pH of the groundwater is circumneutral to slightly alkaline and in this pH range under oxic conditions dissolved iron is generally expected to be very low, often below the MDL due to the rapid formation of sparingly soluble iron hydroxides. These results suggest redox conditions in groundwater at many locations downgradient of the BAP are slightly reducing. Ferrous iron was also measured at 14 of the 15 monitoring wells, also indicating the presence of iron reducing conditions. However, field measured ferrous iron was detected at several wells where both total and dissolved iron were below the RL, suggesting potential interferences resulting in false positive readings for the field measured ferrous iron and thus these results need to be interpreted with caution. However, part of the inconsistency is also likely related to the analytical detection limit of 0.1 mg/L for dissolved iron compared to the Hach® colorimetric method that lists the detectable range from 0 to 3.0 mg/L.

The highest total and dissolved manganese concentrations were detected in samples collected from M-53A, MW-69A, and W-305; concentrations at these wells ranged from 4.7 to 8.6 mg/L. Dissolved manganese was detected at all of the remaining wells in at least one sample except for at W-306 where it was below the RL for both sampling events.

The concentration of dissolved cobalt ranged from <0.0005 mg/L to 0.085 mg/L with a median of 0.021 mg/L. The highest concentrations of total and dissolved cobalt were detected at W-307 and M-52A. Cobalt was measured in all but two wells including M-55A and W-309 both of which are to the northeast of the BAP. All wells in which cobalt was detected also had measurable ferrous iron except MW-53A. However, MW-53A did have some of the highest concentrations of total and dissolved manganese. These data are consistent with the presence of cobalt associated with reducing groundwater conditions.

Total and dissolved arsenic was observed at concentrations above the RL at all wells except W-305. Total and dissolved arsenic concentrations were relatively low, ranging from 0.001 mg/L to 0.014 mg/L in the October 2020 sample collected from W-306. Median concentrations of arsenic were 0.0025 mg/L for both the total and dissolved phases. Arsenic is another groundwater constituent that is often mobilized because of the reductive dissolution of iron hydroxide minerals (Kocar et al., 2006).

Ammonia was detected in only one sample from M-52A at 0.54 mg/L and was not detected in the rest of the samples above the laboratory reporting limit of 0.50 mg/L. Nitrate was either not detected above laboratory reporting limits (0.25 and 0.50 mg/L) or was detected at concentrations below 1 mg/L, except for wells W-301 (17 and 20 mg/L), W-309 (2.6 and 3.2 mg/L), and W-317 (4.5 mg/L). These wells are located near Tanner Wash on the periphery of the BAP monitoring network. It is likely that the relatively high nitrate concentrations at these wells are the result of surface water impacts from ephemeral flow in Tanner Wash. At all locations where nitrate was detected, the concentration of iron was below the RL, consistent with the lower redox conditions indicated by the presence of dissolved iron as nitrate is expected to be reduced to dinitrogen gas (N_2) at an Eh higher than iron reduction.

TOC and DOC were measured at relatively comparable concentrations in all of the groundwater samples; TOC concentrations ranged from 0.64 to 3.2 mg/L, while DOC concentrations ranged from 0.97 to 3.4 mg/L. The highest TOC and DOC concentrations were detected in samples collected from M-55A.

4.2 Field Speciation Results

For the iron speciation sampling, the highest Fe^{2+} concentration was detected in the April 2020 sample from W-307 at >3.0 mg/L, which is the maximum concentration measurable with the Hach® ferrous iron method in a raw sample without dilution. As noted above, Fe^{2+} was measured at 14 of the 15 wells at concentration that ranged from 0.02 mg/L to >3.0 mg/L.

4.3 Field Parameters

Dissolved oxygen (DO) concentrations at the BAP wells ranged from 0.13 to 2.30 mg/L and collected oxidation-reduction potential (ORP) measurements ranged from -64.4 to 368.8 mV, with the only negative value being recorded at MW-69A in October 2020. Because the data quality of field parameters (in particular DO and ORP) are not subject to the rigorous quality assurance/quality control procedures used to evaluate laboratory analytical data, the reported measurements are considered a rough approximation of the groundwater redox conditions.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The results of this groundwater redox evaluation can be summarized as follows:

- Ferrous iron was observed at 14 of the 15 wells sampled.
- Dissolved manganese was also measured at all but one well (W-306).
- There was a fairly strong correlation between field measured Fe^{2+} and cobalt concentrations with an R^2 of 0.69.
- The presence of dissolved iron and ferrous iron at many of the wells adjacent to the BAP indicates the presence of reducing conditions in the groundwater. The redox is sufficiently low to result in the reductive dissolution of iron and manganese oxyhydroxides, which would tend to solubilize naturally occurring cobalt either adsorbed to or co-precipitated with those mineral phases present in the aquifer solids.
- Reducing conditions would also facilitate the reduction of cobalt hydroxide mineral phases with the subsequent mobilization of Co^{2+} to groundwater.

Further evaluation of groundwater redox conditions at the BAP is warranted. Therefore, Wood recommends three additional rounds of laboratory analysis for dissolved iron, dissolved manganese, dissolved cobalt and dissolved organic carbon with groundwater samples collected from M-52A, M-53A, M-55A, M-69A, M-70M, W-301 through W-309, and W-314.

In addition, analysis of solid phase material around the BAP would provide information on how cobalt is partitioned in the solid phase and what metals or mineral fractions it is most closely associated with.

6.0 REFERENCES

Alloway, B.J., 2013. Heavy Metals in Soils: Trace Metals and Metalloids in Soils and their Bioavailability Third Edition. Springer 2013.

Federal Register, 2020. 40 Code of Federal Regulations Part 257 – Hazardous and Solid Waste Management System; Disposal of Coal Combustion Residuals From Electric Utilities; Final Rule promulgated at 80 FR 21468 on April 17, 2015 with amendments issued through November 12, 2020 at 85 FR 72539 (A Holistic Approach to Closure Part B: Alternate Demonstration for Unlined Surface Impoundments)..

Kocar, B.D., M.J. Herbel, K.J. Tufano, and S. Fendorf. 2006. Contrasting Effects of Dissimilatory Iron(III) and As(V) Reduction on Arsenic Retention and Transport. Environ. Sci. Technol. 40: 6715-6721.

McBride, M.B., 1994. Environmental Chemistry of Soils. Oxford University Press, 1994.

Montgomery & Associates, 2015. *Groundwater Sampling and Analysis Program, Cholla Power Plant, Joseph City, Arizona.* Prepared for APS. November 30, 2015.

Wood Environment & Infrastructure Solutions, Inc. (Wood), 2020. *Cobalt Leaching Evaluation at the Bottom Ash Pond*. Arizona Public Service Company Cholla Power Plant - Navajo County, Arizona. Technical Memorandum dated January 19, 2021.

Wood, 2021. *Annual Groundwater Monitoring and Corrective Action Report for 2020. Coal Combustion Residuals Rule and Aquifer Protection Permit Compliance*. Arizona Public Service Company. Cholla Power Plant, Navajo County, Arizona. Prepared on behalf of Arizona Public Service. January 31, 2021.

TABLE

Table 1

Redox Sampling Results for the BAP

Well Identification		M-52A		M-53A		M-55A		MW-69A		MW-70M		W-301		W-302		W-303	
Constituent	**Units**	**4/19/20**	**10/22/20**	**4/19/20**	**10/22/20**	**4/17/20**	**10/24/20**	**4/19/20**	**10/23/20**	**4/19/20**	**10/23/20**	**4/18/20**	**10/22/20**	**4/17/20**	**10/23/20**	**4/18/20**	**10/22/20**
Ammonia	mg/L	<0.50	0.54	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic (total)	mg/L	<0.0025	0.0012	<0.0025	0.0030	0.0071	0.0070	<0.0025	0.0099	<0.0025	0.0013	<0.0025	0.0032	<0.0025	0.0013	<0.0025	0.0014
Arsenic (dissolved)	mg/L	<0.0025	<0.0020	<0.0025	0.0028	0.005	0.0052	<0.0025	0.0047	<0.0025	0.0032	<0.0025	<0.0020	<0.0025	<0.0020	<0.0025	0.0023
Cobalt (total)	mg/L	0.039	0.067	0.014	0.011	<0.0025	<0.0010	0.027	0.025	0.025	0.022	0.021	0.022	0.0064	0.0052	0.027	0.021
Cobalt (dissolved)	mg/L	0.042	0.070	0.016	0.012	<0.0025	<0.0025	0.026	0.027	0.024	0.023	0.022	0.022	0.0064	0.0056	0.028	0.023
Iron (total)	mg/L	5.0	0.41	<0.10	<0.10	<0.10	0.17	0.21	2.3	<0.10	<0.10	<0.10	<0.10	0.40	0.19	<0.10	0.14
Iron (dissolved)	mg/L	2.9	0.21	<0.10	<0.10	<0.10	<0.10	<0.1	1.1	<0.10	<0.10	<0.10	<0.10	0.14	0.12	<0.10	<0.10
Ferrous Iron*	mg/L	2.6	NS	0	NS	0.1	NS	0.16	NS	0.44	NS	0.02	NS	0.35	NS	0.01	NS
Manganese (total)	mg/L	1.2	1.6	5.2	5.2	<0.05	0.017	8.6	8.2	1.8	1.8	1.8	1.6	<0.05	0.057	<0.05	0.10
Manganese (dissolved)	mg/L	1.1	1.6	4.8	4.7	<0.01	0.016	8.2	8.1	1.8	1.7	1.7	1.6	0.027	0.048	0.023	0.11
Nitrate/Nitrite	mg/L	<0.50	<0.25	<0.50	<0.25	0.52	0.48	<0.50	<0.25	<0.50	0.40	17	20	<0.50	<0.25	<0.50	<0.25
Nitrite*	mg/L	0.004	NS	NS	NS	0.05	NS	0.005	NS	0.005	NS	0.022	NS	0	NS	0.003	NS
TOC	mg/L	1.5	1.2	1.2	0.99	3.2	3.0	1.7	1.5	1.3	1.1	2.9	2.6	0.64	0.57	1.4	1.1
DOC	mg/L	1.4	1.3	1.2	1.1	3.4	3.2	1.7	1.5	1.7	1.2	3.1	2.7	1.2	0.75	1.4	1.2
ORP	mV	46.7	23.4	138.3	227	36.2	19.6	174.9	-64.4	53.4	368.8	223.7	366.9	47.5	22	143.8	277
DO	mg/L	0.05	0.17	0.04	0.14	0.27	0.36	0.54	0.29	0.28	0.4	0.15	0.29	0.26	0.44	3.64	0.38
pH	s.u.	6.7	7.2	7.1	7.2	7.3	7.0	7.2	7.3	7.2	7.2	7.0	7.0	7.2	7.1	7.3	7.1
Turbidity	NTUs	22.1	0.99	0.02	0.02	1.03	1.50	0.02	2.08	0.02	0.02	0.13	0.02	1.92	2.25	0.48	2.14

Notes:

*Results from field speciation sampling

Abbreviations:

BAP=Bottom Ash Pond
DO=dissolved oxygen
DOC=dissolved organic carbon
ORP=oxidation reduction
mg/L=milligrams per liter
NS=not sampled
NTUs=nephelometric turbidity units
s.u.=standard units
TOC=total organic carbon

Table 1

Redox Sampling Results for the BAP

Well Identification		W-304		W-305		W-306		W-307		W-308		W-309		W-314	
Constituent	**Units**	**4/17/20**	**10/23/20**	**4/18/20**	**10/22/20**	**4/19/20**	**10/22/20**	**4/17/20**	**10/23/20**	**4/17/20**	**10/24/20**	**5/4/20**	**10/24/20**	**4/19/20**	**10/23/20**
Ammonia	mg/L	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Arsenic (total)	mg/L	<0.0025	0.0010	<0.0025	<0.0010	0.005	0.014	<0.0025	0.0014	<0.0025	0.0024	0.0047	0.0089	<0.0025	0.0019
Arsenic (dissolved)	mg/L	0.0029	<0.0020	<0.0025	<0.0020	0.0055	0.0071	<0.0025	0.0022	0.0025	<0.0020	0.0038	0.0093	<0.0025	<0.0020
Cobalt (total)	mg/L	0.003	0.0029	0.02	0.018	<0.0025	0.0030	0.084	0.069	<0.0025	0.0027	<0.00050	<0.0010	0.022	0.024
Cobalt (dissolved)	mg/L	0.0032	0.0034	0.02	0.018	<0.0025	<0.0020	0.085	0.069	<0.0025	0.080	<0.00050	<0.0010	0.023	0.025
Iron (total)	mg/L	0.11	0.20	0.48	0.36	<0.10	0.11	0.16	0.17	<0.10	0.12	<0.10	0.11	<0.10	<0.10
Iron (dissolved)	mg/L	<0.1	0.18	0.28	0.36	<0.10	0.10	<0.10	0.16	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Ferrous Iron*	mg/L	0.06	NS	0.29	NS	0.23	NS	>3.00	NS	0.21	NS	0.02	NS	0.1	NS
Manganese (total)	mg/L	0.89	1.2	8.1	7.2	<0.05	<0.010	<0.05	0.042	0.072	0.34	0.83	0.56	0.063	0.082
Manganese (dissolved)	mg/L	0.82	1.1	7.3	7.0	<0.010	<0.010	0.027	0.041	0.073	0.32	0.83	0.55	0.057	0.082
Nitrate/Nitrite	mg/L	<0.50	<0.25	<0.50	<0.25	<0.50	<0.25	<0.50	<0.25	<0.50	0.68	2.6	3.2	<0.50	4.5
Nitrite*	mg/L	0	NS	0.005	NS	0	NS	NS	NS	0.008	NS	0.005	NS	0.004	NS
TOC	mg/L	0.7	0.62	1.8	1.5	2.4	2.2	1.3	1.1	1.0	0.93	<1	<0.50	0.97	0.95
DOC	mg/L	0.97	1.3	1.7	1.7	2.6	2.2	1.6	1.3	1.2	0.95	<1	0.54	1.0	0.98
ORP	mV	37.5	49	11.5	1.3	323.7	110.6	17.4	5.3	17.4	25.4	124.3	144.5	98.8	27.3
DO	mg/L	0.26	0.32	0.19	0.32	0.22	0.31	0.28	0.26	0.07	0.33	0.21	0.36	0.23	0.28
pH	s.u.	7.3	7.3	7.1	7.3	7.8	7.8	7.2	7.1	7.1	6.7	7.2	7.1	7.1	7.1
Turbidity	NTUs	1.82	0.17	1.07	0.03	0.02	0.09	0.65	2.02	0.44	1.78	0.20	0.98	0.02	0.16

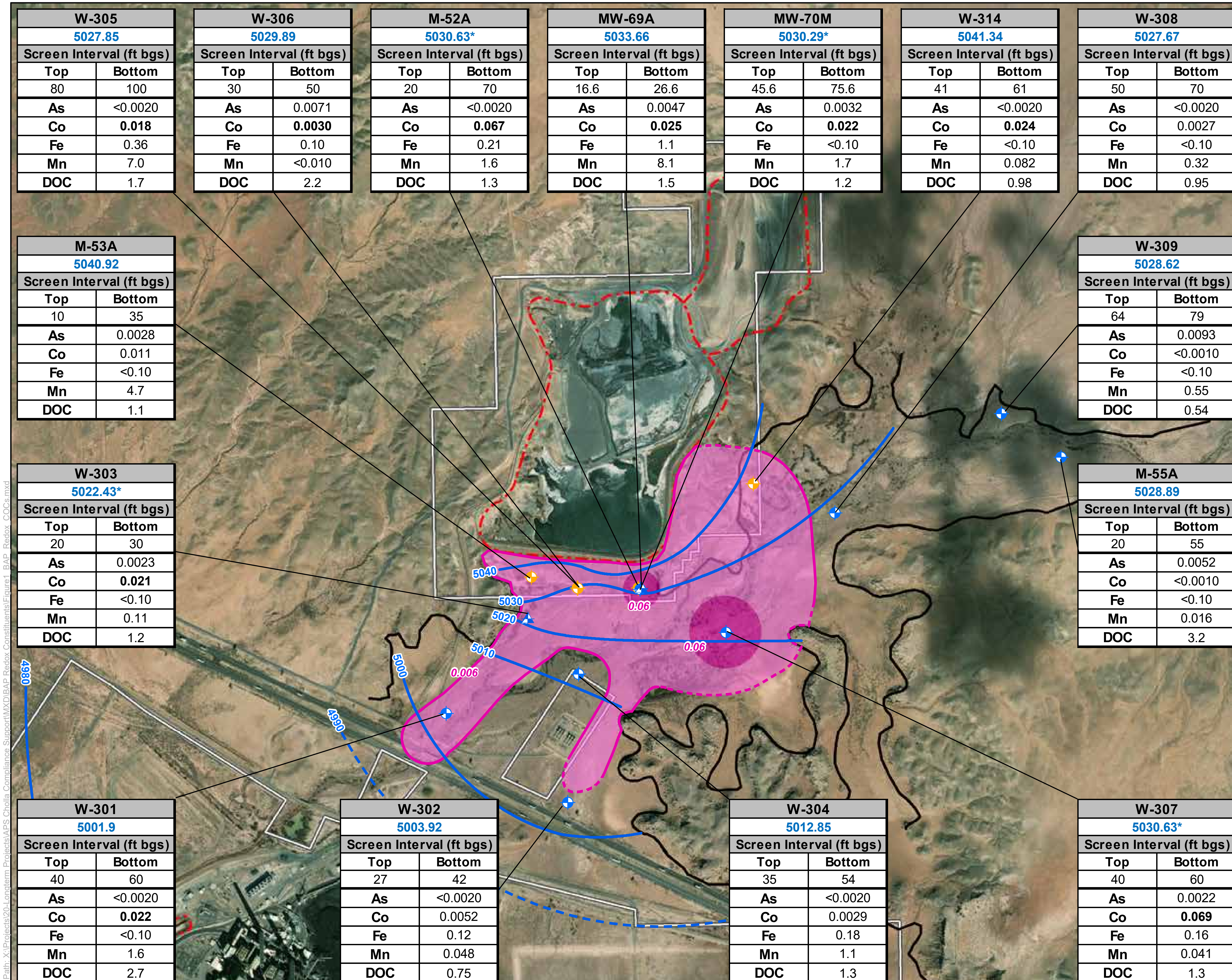
Notes:

*Results from field speciation samp

Abbreviations:

BAP=Bottom Ash Pond
DO=dissolved oxygen
DOC=dissolved organic carbon
ORP=oxidation reduction
mg/L=milligrams per liter
NS=not sampled
NTUs=nephelometric turbidity unit
s.u.=standard units
TOC=total organic carbon

FIGURE



W-305	
5027.85	
Screen Interval (ft bgs)	
Top	Bottom
80	100
As	<0.0020
Co	**0.018**
Fe	0.36
Mn	7.0
DOC	1.7

W-306	
5029.89	
Screen Interval (ft bgs)	
Top	Bottom
30	50
As	0.0071
Co	**0.0030**
Fe	0.10
Mn	<0.010
DOC	2.2

M-52A	
5030.63*	
Screen Interval (ft bgs)	
Top	Bottom
20	70
As	<0.0020
Co	**0.067**
Fe	0.21
Mn	1.6
DOC	1.3

MW-69A	
5033.66	
Screen Interval (ft bgs)	
Top	Bottom
16.6	26.6
As	0.0047
Co	**0.025**
Fe	1.1
Mn	8.1
DOC	1.5

MW-70M	
5030.29*	
Screen Interval (ft bgs)	
Top	Bottom
45.6	75.6
As	0.0032
Co	**0.022**
Fe	<0.10
Mn	1.7
DOC	1.2

W-314	
5041.34	
Screen Interval (ft bgs)	
Top	Bottom
41	61
As	<0.0020
Co	**0.024**
Fe	<0.10
Mn	0.082
DOC	0.98

W-308	
5027.67	
Screen Interval (ft bgs)	
Top	Bottom
50	70
As	<0.0020
Co	0.0027
Fe	<0.10
Mn	0.32
DOC	0.95

M-53A	
5040.92	
Screen Interval (ft bgs)	
Top	Bottom
10	35
As	0.0028
Co	0.011
Fe	<0.10
Mn	4.7
DOC	1.1

W-309	
5028.62	
Screen Interval (ft bgs)	
Top	Bottom
64	79
As	0.0093
Co	<0.0010
Fe	<0.10
Mn	0.55
DOC	0.54

W-303	
5022.43*	
Screen Interval (ft bgs)	
Top	Bottom
20	30
As	0.0023
Co	**0.021**
Fe	<0.10
Mn	0.11
DOC	1.2

M-55A	
5028.89	
Screen Interval (ft bgs)	
Top	Bottom
20	55
As	0.0052
Co	<0.0010
Fe	<0.10
Mn	0.016
DOC	3.2

W-301	
5001.9	
Screen Interval (ft bgs)	
Top	Bottom
40	60
As	<0.0020
Co	**0.022**
Fe	<0.10
Mn	1.6
DOC	2.7

W-302	
5003.92	
Screen Interval (ft bgs)	
Top	Bottom
27	42
As	<0.0020
Co	0.0052
Fe	0.12
Mn	0.048
DOC	0.75

W-304	
5012.85	
Screen Interval (ft bgs)	
Top	Bottom
35	54
As	<0.0020
Co	0.0029
Fe	0.18
Mn	1.1
DOC	1.3

W-307	
5030.63*	
Screen Interval (ft bgs)	
Top	Bottom
40	60
As	0.0022
Co	**0.069**
Fe	0.16
Mn	0.041
DOC	1.3

Legend

CCR Monitoring Well Location

Alluvial Monitoring Well

Supplementary Site Monitoring Well Location

Alluvial Monitoring Well

Moenkupi Formation (Moqui Member) Monitoring Well

Estimated Alluvial Extent

Approximate Extent of CCR Unit

APS Land Ownership

Alluvial Aquifer Potentiometric Surface (October 2020)

Groundwater Elevation (Dashed Where Inferred)

Cobalt Concentration in Groundwater (October 2020)

>0.06 mg/L

>0.006 mg/L

GWPS (0.006 mg/L; Dashed Where Inferred)

Notes:

W-302	Well Identification
5003.92	Groundwater elevation (ft amsl) measured in October 2020
*	Well not used in potentiometric surface mapping
As	Arsenic concentration (mg/L)
Co	Cobalt concentration (mg/L) (**Bolded** values exceed GWPS)
Fe	Iron concentration (mg/L)
Mn	Manganese concentration (mg/L)
DOC	Dissolved Organic Carbon concentration (mg/L)
ft amsl	Feet above mean sea level
ft bgs	Feet below ground surface
mg/L	Milligrams per liter
CCR	Coal Combustion Residuals
GWPS	Groundwater Protection Standard

Constituents sampled in October 2020

Dissolved concentrations depicted

0 500 1,000 Feet

N

Arizona Public Service
Cholla Power Plant
Navajo County, Arizona

Figure 1

BAP Redox Constituents October 2020

Job No. 1420182040
PM: MBH
Date: 1/27/2022
Scale: 1"= 1,000'

wood.

Path: X:\Projects\20-Longterm Projects\APS Cholla Compliance Support\MXD\BAP Redox Constituents\Figure1_BAP_Redox_COCs.mxd

ATTACHMENT A

Analytical Laboratory Reports

Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-141150-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Authorized for release by:
6/23/2020 12:26:23 PM

Ken Baker, Project Manager II
(602)659-7624
ken.baker@testamericainc.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at: www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

Table of Contents

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
R13	MS/MSD RPD exceeded the method acceptance limit. Matrix spike recovery was outside acceptance criteria. Batch precision and accuracy were demonstrated.

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
R8	Sample RPD exceeded the method acceptance limit.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-141150-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-141150-1

Comments
This report contains the 200.7 metals reported down to the MDL.

Receipt
The samples were received on 4/21/2020 2:51 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 5 coolers at receipt time were 1.7º C, 2.0º C, 3.2º C, 3.7º C and 4.8º C.

Receipt Exceptions
The following samples for metals were received unpreserved and were preserved upon receipt to the laboratory: CH-CCR-M52-0420 (550-141150-1), CH-CCR-M52-0420 (550-141150-1[MS]), CH-CCR-M52-0420 (550-141150-1[MSD]), CH-CCR-M52-0420 (550-141150-2), CH-CCR-M52-0420 (550-141150-2[MS]), CH-CCR-M52-0420 (550-141150-2[MSD]), CH-CCR-M53-0420 (550-141150-3), CH-CCR-M53-0420 (550-141150-4), CH-CCR-M55-0420 (550-141150-5), CH-CCR-M55-0420 (550-141150-6), CH-CCR-M69-0420 (550-141150-7), CH-CCR-M69-0420 (550-141150-8), CH-CCR-M70-0420 (550-141150-9), CH-CCR-M70-0420 (550-141150-10), CH-CCR-W301-0420 (550-141150-11), CH-CCR-W301-0420 (550-141150-12), CH-CCR-W302-0420 (550-141150-13), CH-CCR-W302-0420 (550-141150-14), CH-CCR-W303-0420 (550-141150-15), CH-CCR-W303-0420 (550-141150-16), CH-CCR-W304-0420 (550-141150-17), CH-CCR-W304-0420 (550-141150-18), CH-CCR-FD03-0420 (550-141150-19), CH-CCR-FD03-0420 (550-141150-20), CH-CCR-W305-0420 (550-141150-21), CH-CCR-W305-0420 (550-141150-22), CH-CCR-W306-0420 (550-141150-23), CH-CCR-W306-0420 (550-141150-24), CH-CCR-W307-0420 (550-141150-25), CH-CCR-W307-0420 (550-141150-26), CH-CCR-W308-0420 (550-141150-27), CH-CCR-W308-0420 (550-141150-28), CH-CCR-W314-0420 (550-141150-29), CH-CCR-W314-0420 (550-141150-30), CH-CCR-W317-0420 (550-141150-31), CH-CCR-FD04-0420 (550-141150-32) and CH-CCR-FD04-0420 (550-141150-33). Regulatory documents require a 24-hour waiting period from the time of the addition of the acid preservative to the time of digestion.

HPLC/IC
Method 300.0: The following samples were diluted for Fluoride by method EPA 300.0 due to the nature of the samples matrix: CH-CCR-M55-0420 (550-141150-5), CH-CCR-W301-0420 (550-141150-11), CH-CCR-W303-0420 (550-141150-15), CH-CCR-W304-0420 (550-141150-17), CH-CCR-W305-0420 (550-141150-21), CH-CCR-W307-0420 (550-141150-25), CH-CCR-W308-0420 (550-141150-27) and CH-CCR-W317-0420 (550-141150-31). The samples contained high concentrations of Chloride and Sulfate which exceeded the instrument's maximum column capacity. Fluoride was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided and these data have been qualified with D1 and D5 flags.

Method 300.0: The matrix spike (MS) recovery and the matrix spike / matrix spike duplicate (MS/MSD) precision for analytical batch 550-209010 were outside control limits for Fluoride by method EPA 300.0. Sample matrix interference and/or non-homogeneity were suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries and precision were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.7 Rev 4.4: The continuing calibration blank (CCB) for analytical batch 550-209337 contained sodium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range: CH-CCR-M52-0420 (550-141150-1), CH-CCR-M53-0420 (550-141150-3), CH-CCR-M55-0420 (550-141150-5), CH-CCR-M69-0420 (550-141150-7), CH-CCR-M70-0420 (550-141150-9), CH-CCR-W301-0420 (550-141150-11), CH-CCR-W302-0420 (550-141150-13), CH-CCR-W303-0420 (550-141150-15), CH-CCR-W304-0420 (550-141150-17), CH-CCR-FD03-0420 (550-141150-19), CH-CCR-W305-0420 (550-141150-21), CH-CCR-W306-0420 (550-141150-23), CH-CCR-W307-0420 (550-141150-25), CH-CCR-W308-0420 (550-141150-27), CH-CCR-W314-0420 (550-141150-29) and (550-141149-B-3-D ^10). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted to bring the concentration of target analytes within the calibration range:

Job ID: 550-141150-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

CH-CCR-M55-0420 (550-141150-6) and CH-CCR-FD04-0420 (550-141150-32). Elevated reporting limits (RLs) are provided.

Method 200.7 Rev 4.4: The following samples were diluted due to the nature of the sample matrix (internal standard failures and undiluted caused instrument shut down): CH-CCR-M52-0420 (550-141150-1), CH-CCR-M53-0420 (550-141150-3), CH-CCR-M55-0420 (550-141150-5), CH-CCR-M69-0420 (550-141150-7), CH-CCR-M70-0420 (550-141150-9), CH-CCR-W301-0420 (550-141150-11), CH-CCR-W302-0420 (550-141150-13), CH-CCR-W303-0420 (550-141150-15), CH-CCR-W304-0420 (550-141150-17), CH-CCR-FD03-0420 (550-141150-19), CH-CCR-W305-0420 (550-141150-21), CH-CCR-W306-0420 (550-141150-23), CH-CCR-W307-0420 (550-141150-25), CH-CCR-W308-0420 (550-141150-27), CH-CCR-W314-0420 (550-141150-29), (550-141149-B-3-D ^5), (550-141149-B-3-B MS ^5) and (550-141149-B-3-C MSD ^5). Elevated reporting limits (RLs) are provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2320B: The sample duplicate (DU) precision for 550-208656 was outside control limits for Bicarbonate Alkalinity and Total Alkalinity associated with the following sample; CH-CCR-M52-0420 (550-141150-1) and (550-141150-C-1 DU). Sample matrix interference was suspected.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-208812 were outside control limits for Dissolved Organic Carbon (DOC). Sample matrix interference was suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries were within acceptance limits.

Method SM 5310B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for 550-209233 were outside control limits for Total Organic Carbon (TOC). Sample matrix interference was suspected because the associated laboratory control sample / laboratory sample control duplicate (LCS/LCSD) recoveries were within acceptance limits.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-141150-1	CH-CCR-M52-0420	Water	04/19/20 11:52	04/21/20 14:51	
550-141150-2	CH-CCR-M52-0420	Water	04/19/20 11:52	04/21/20 14:51	
550-141150-3	CH-CCR-M53-0420	Water	04/19/20 10:04	04/21/20 14:51	
550-141150-4	CH-CCR-M53-0420	Water	04/19/20 10:04	04/21/20 14:51	
550-141150-5	CH-CCR-M55-0420	Water	04/17/20 15:56	04/21/20 14:51	
550-141150-6	CH-CCR-M55-0420	Water	04/17/20 15:56	04/21/20 14:51	
550-141150-7	CH-CCR-M69-0420	Water	04/19/20 13:12	04/21/20 14:51	
550-141150-8	CH-CCR-M69-0420	Water	04/19/20 13:12	04/21/20 14:51	
550-141150-9	CH-CCR-M70-0420	Water	04/19/20 14:55	04/21/20 14:51	
550-141150-10	CH-CCR-M70-0420	Water	04/19/20 14:55	04/21/20 14:51	
550-141150-11	CH-CCR-W301-0420	Water	04/18/20 13:37	04/21/20 14:51	
550-141150-12	CH-CCR-W301-0420	Water	04/18/20 13:37	04/21/20 14:51	
550-141150-13	CH-CCR-W302-0420	Water	04/17/20 09:45	04/21/20 14:51	
550-141150-14	CH-CCR-W302-0420	Water	04/17/20 09:45	04/21/20 14:51	
550-141150-15	CH-CCR-W303-0420	Water	04/18/20 14:49	04/21/20 14:51	
550-141150-16	CH-CCR-W303-0420	Water	04/18/20 14:49	04/21/20 14:51	
550-141150-17	CH-CCR-W304-0420	Water	04/17/20 11:16	04/21/20 14:51	
550-141150-18	CH-CCR-W304-0420	Water	04/17/20 11:16	04/21/20 14:51	
550-141150-19	CH-CCR-FD03-0420	Water	04/19/20 10:04	04/21/20 14:51	
550-141150-20	CH-CCR-FD03-0420	Water	04/19/20 10:04	04/21/20 14:51	
550-141150-21	CH-CCR-W305-0420	Water	04/18/20 16:24	04/21/20 14:51	
550-141150-22	CH-CCR-W305-0420	Water	04/18/20 16:24	04/21/20 14:51	
550-141150-23	CH-CCR-W306-0420	Water	04/19/20 08:12	04/21/20 14:51	
550-141150-24	CH-CCR-W306-0420	Water	04/19/20 08:12	04/21/20 14:51	
550-141150-25	CH-CCR-W307-0420	Water	04/17/20 12:27	04/21/20 14:51	
550-141150-26	CH-CCR-W307-0420	Water	04/17/20 12:27	04/21/20 14:51	
550-141150-27	CH-CCR-W308-0420	Water	04/17/20 14:18	04/21/20 14:51	
550-141150-28	CH-CCR-W308-0420	Water	04/17/20 14:18	04/21/20 14:51	
550-141150-29	CH-CCR-W314-0420	Water	04/19/20 16:09	04/21/20 14:51	
550-141150-30	CH-CCR-W314-0420	Water	04/19/20 16:09	04/21/20 14:51	
550-141150-31	CH-CCR-W317-0420	Water	04/16/20 16:48	04/21/20 14:51	
550-141150-32	CH-CCR-FD04-0420	Water	04/19/20 08:12	04/21/20 14:51	
550-141150-33	CH-CCR-FD04-0420	Water	04/19/20 08:12	04/21/20 14:51	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-0420 Lab Sample ID: 550-141150-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4300	D2	400		mg/L	200		300.0	Total/NA
Fluoride	0.88	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00056	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	4.1	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	5.0		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	250		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.2	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	8.9		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2500	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.018	D1	0.010		mg/L	10		200.8 LL	Total/NA
Cobalt	0.039	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.022	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Thallium	0.00010		0.00010		mg/L	1		200.8 LL	Total/NA
Alkalinity as CaCO3	210	R8	6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	210	R8	6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	11.2	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.5		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.5		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.5		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M52-0420 Lab Sample ID: 550-141150-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	2.9		0.10		mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.1		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.042	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4	M2	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4	M2	0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4	M2	0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M53-0420 Lab Sample ID: 550-141150-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400		mg/L	200		300.0	Total/NA
Fluoride	2.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3100	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00055	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	610		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.2	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	15		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1600	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0087		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.0012		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.014	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.038	D1	0.0025		mg/L	5		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M53-0420 (Continued)

Lab Sample ID: 550-141150-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Alkalinity as CaCO3	96		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	96		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8200	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.3	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.2		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.2		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M53-0420

Lab Sample ID: 550-141150-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	4.8		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.016	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4600	D2	400		mg/L	200		300.0	Total/NA
Nitrate Nitrite as N	0.52	D1	0.50		mg/L	5		300.0	Total/NA
Sulfate	3500	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00059	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.46	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	700		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.040	E4	0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	6.5		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	2900	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0071	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Barium	0.014	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.016	D1	0.010		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0048	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Selenium	0.12	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	190		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	190		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	11000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	12.2	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.2		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	3.2		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	3.2		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0050	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	3.4		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.4		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.4		0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M69-0420 — Lab Sample ID: 550-141150-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00052	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	630		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.21		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	8.6	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	10		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1800	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.027		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00011		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.027	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.055	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.8	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.7		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.7		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.7		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M69-0420 — Lab Sample ID: 550-141150-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	8.2		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.026	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M70-0420 — Lab Sample ID: 550-141150-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.2	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	2700	D2	400		mg/L	200		300.0	Total/NA
Boron	2.4	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	640		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.072	E4	0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	11		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	1500	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.014		0.00050		mg/L	1		200.8 LL	Total/NA
Cadmium	0.00053		0.00010		mg/L	1		200.8 LL	Total/NA
Cobalt	0.025	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Lead	0.0023		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.034	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	85		6.0		mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-0420 (Continued) — Lab Sample ID: 550-141150-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Bicarbonate Alkalinity as CaCO3	85		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7400	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	13.9	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.3		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M70-0420 — Lab Sample ID: 550-141150-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.8		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.024	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.8		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-0420 — Lab Sample ID: 550-141150-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6400	D2	400		mg/L	200		300.0	Total/NA
Nitrate Nitrite as N	17	D1	0.50		mg/L	5		300.0	Total/NA
Sulfate	3600	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00063	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.70	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	690		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.41	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	160		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	9.6	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	4100	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0082	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Cobalt	0.021	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0051	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Selenium	0.0060	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	14000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.7	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.9		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.9		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.9		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W301-0420 — Lab Sample ID: 550-141150-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	1.7		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.022	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	3.1		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.1		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.1		0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0420 — Lab Sample ID: 550-141150-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3000	D2	400		mg/L	200		300.0	Total/NA
Fluoride	0.97	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	2300	D2	400		mg/L	200		300.0	Total/NA
Boron	0.64	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	590		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.40		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.022	D1 E4	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	6.5	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1800	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.013	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.086	D1	0.010		mg/L	10		200.8 LL	Total/NA
Cobalt	0.0064	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.012	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8100	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.7	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.64		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.62		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.64		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W302-0420 — Lab Sample ID: 550-141150-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.14		0.10		mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.027		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.0064	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W303-0420 — Lab Sample ID: 550-141150-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400		mg/L	200		300.0	Total/NA
Sulfate	3300	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00059	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	620		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	190		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.036	D1 E4	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	6.8	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	2100	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0048	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Cobalt	0.027	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.024	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	150		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	150		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8900	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W303-0420 (Continued) — Lab Sample ID: 550-141150-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Temperature	14.6	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.4		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.4		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.4		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W303-0420 — Lab Sample ID: 550-141150-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.023		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.028	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.4		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.4		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.4		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-0420 — Lab Sample ID: 550-141150-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2700	D2	400		mg/L	200		300.0	Total/NA
Sulfate	2600	D2	400		mg/L	200		300.0	Total/NA
Boron	0.52	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	570		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.46	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	94		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.89	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	5.0	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	2100	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0069	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Cobalt	0.0030	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Molybdenum	0.0046	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	140		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	140		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8400	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.3	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.70		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.73		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.70		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W304-0420 — Lab Sample ID: 550-141150-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.82		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0029	D1	0.0025		mg/L	5		200.8 LL	Dissolved
Cobalt	0.0032	D1	0.0025		mg/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	0.97		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.97		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.97		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-0420 — Lab Sample ID: 550-141150-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2300	D2	400		mg/L	200		300.0	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-0420 (Continued) Lab Sample ID: 550-141150-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Fluoride	2.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.00050	E4	0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.7	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	620		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.27	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	210		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.0	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	12	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1600	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0088	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Cadmium	0.0012	D1	0.0010		mg/L	10		200.8 LL	Total/NA
Cobalt	0.014	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.039	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	96		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	96		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7800	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.2		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.2		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.2		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD03-0420 Lab Sample ID: 550-141150-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	5.0		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.014	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-0420 Lab Sample ID: 550-141150-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400		mg/L	200		300.0	Total/NA
Sulfate	2300	D2	400		mg/L	200		300.0	Total/NA
Boron	0.41	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.48		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.30	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	110		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	8.1	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	1.4	D1 E4	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1600	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.014	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.0069	D1	0.0050		mg/L	5		200.8 LL	Total/NA
Cobalt	0.020	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Lead	0.0024		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.021	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	100		6.0		mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W305-0420 (Continued) — Lab Sample ID: 550-141150-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	7600	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.8		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.8		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.8		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W305-0420 — Lab Sample ID: 550-141150-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.28		0.10		mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.3		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.020	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-0420 — Lab Sample ID: 550-141150-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2000	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	13000	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.0017		0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	400		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	1.3	D1	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	3.6	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	5700	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0050	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Barium	0.012	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.042	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.8	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	14.9	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.4		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.4		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.4		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W306-0420 — Lab Sample ID: 550-141150-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0055	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	2.6		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.6		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.6		0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307-0420 — Lab Sample ID: 550-141150-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2600	D2	400		mg/L	200		300.0	Total/NA
Sulfate	2500	D2	400		mg/L	200		300.0	Total/NA
Boron	2.7	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	710		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.16		0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.29	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	130		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.030	D1 E4	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	4.2	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1600	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.012	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.013	D1	0.010		mg/L	10		200.8 LL	Total/NA
Cobalt	0.084	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Lead	0.0011		0.00050		mg/L	1		200.8 LL	Total/NA
Molybdenum	0.011	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	110		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	110		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	8000	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	15.1	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.3		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.3		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W307-0420 — Lab Sample ID: 550-141150-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.027		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.085	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.6		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.6		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.6		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-0420 — Lab Sample ID: 550-141150-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2900	D2	400		mg/L	200		300.0	Total/NA
Sulfate	2500	D2	400		mg/L	200		300.0	Total/NA
Boron	0.50	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	760		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.031	E4	0.10	0.030	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.46	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	120		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.072	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Potassium	6.4	D1	2.5	0.73	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	2100	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.0072	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.077	D1	0.010		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0052	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Selenium	0.020	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Alkalinity as CaCO3	170		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	170		6.0		mg/L	1		SM 2320B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W308-0420 (Continued)

Lab Sample ID: 550-141150-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Total Dissolved Solids	8600	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	16.1	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	1.1		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	1.0		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W308-0420

Lab Sample ID: 550-141150-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.073		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0025	D1	0.0025		mg/L	5		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50		mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2900	D2	400		mg/L	200		300.0	Total/NA
Fluoride	0.84	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	2300	D2	400		mg/L	200		300.0	Total/NA
Boron	1.4	D1	0.25	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Calcium	790		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.44	D1 E4	1.0	0.20	mg/L	5		200.7 Rev 4.4	Total/NA
Magnesium	170		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.063	D1	0.050	0.015	mg/L	5		200.7 Rev 4.4	Total/NA
Sodium	1500	B3 D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Barium	0.011	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Chromium	0.010	D1	0.010		mg/L	10		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.010	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	98		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	98		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	7600	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.97		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	0.98		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	0.97		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.057		0.010		mg/L	1		200.7 Rev 4.4	Dissolved
Cobalt	0.023	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	1.0		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.0		0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-0420

Lab Sample ID: 550-141150-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400		mg/L	200		300.0	Total/NA
Sulfate	730	D2	400		mg/L	200		300.0	Total/NA
Boron	0.21		0.050	0.0030	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.042	E4	0.20	0.040	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0038	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Barium	0.031	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.0037	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Total Dissolved Solids	3700	D2	100		mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.4	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1800	D2	400		mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80		mg/L	2		300.0	Total/NA
Sulfate	12000	D2	400		mg/L	200		300.0	Total/NA
Beryllium	0.0017		0.0010	0.00050	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.1		0.050	0.0030	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	400		2.0	0.015	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	1.2		0.20	0.040	mg/L	1		200.7 Rev 4.4	Total/NA
Magnesium	230		2.0	0.055	mg/L	1		200.7 Rev 4.4	Total/NA
Potassium	9.7		0.50	0.15	mg/L	1		200.7 Rev 4.4	Total/NA
Sodium	5500	D2	5.0	0.28	mg/L	10		200.7 Rev 4.4	Total/NA
Arsenic	0.0048	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Barium	0.011	D1	0.0050		mg/L	10		200.8 LL	Total/NA
Molybdenum	0.039	D1	0.0025		mg/L	5		200.8 LL	Total/NA
Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Bicarbonate Alkalinity as CaCO3	130		6.0		mg/L	1		SM 2320B	Total/NA
Total Dissolved Solids	19000	D1 D2	200		mg/L	1		SM 2540C	Total/NA
pH	7.9	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	10.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.5		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Duplicates	2.5		0.50		mg/L	1		SM 5310B	Total/NA
Total Organic Carbon - Quad	2.5		0.50		mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0051	D1	0.0050		mg/L	10		200.8 LL	Dissolved
Dissolved Organic Carbon	2.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.7		0.50		mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.7		0.50		mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-0420
Lab Sample ID: 550-141150-1
Date Collected: 04/19/20 11:52
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**4300**	**D2**	400		mg/L			04/23/20 01:08	200
Fluoride	**0.88**	**D1**	0.80		mg/L			04/23/20 00:13	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 04:00	5
Sulfate	**3400**	**D2**	400		mg/L			04/23/20 01:08	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00056**	**E4**	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:42	1
Boron	**4.1**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 13:33	5
Calcium	**700**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:42	1
Iron	**5.0**		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:42	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 13:33	5
Magnesium	**250**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:42	1
Manganese	**1.2**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:35	5
Potassium	**8.9**		0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:42	1
Sodium	**2500**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:34	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:24	5
Barium	**0.014**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:22	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:24	5
Chromium	**0.018**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:22	10
Cobalt	**0.039**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:22	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:52	1
Molybdenum	**0.022**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 18:51	5
Selenium	ND	D1	0.0050		mg/L		04/22/20 06:44	04/30/20 22:22	10
Thallium	**0.00010**		0.00010		mg/L		04/22/20 06:44	04/23/20 22:52	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**210**	**R8**	6.0		mg/L			04/23/20 09:39	1
Bicarbonate Alkalinity as CaCO3	**210**	**R8**	6.0		mg/L			04/23/20 09:39	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:39	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 09:39	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:39	1
Total Dissolved Solids	**11000**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.2**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**11.2**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 19:09	1
Total Organic Carbon	**1.5**		0.50		mg/L			04/23/20 18:40	1
Total Organic Carbon - Duplicates	**1.5**		0.50		mg/L			04/23/20 18:40	1
Total Organic Carbon - Quad	**1.5**		0.50		mg/L			04/23/20 18:40	1

Client Sample ID: CH-CCR-M52-0420
Lab Sample ID: 550-141150-2
Date Collected: 04/19/20 11:52
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.9**		0.10		mg/L		04/22/20 13:34	04/27/20 22:49	1

Client Sample ID: CH-CCR-M52-0420
Lab Sample ID: 550-141150-2
Date Collected: 04/19/20 11:52
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	1.1		0.010		mg/L		04/22/20 13:34	04/27/20 22:49	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:01	5
Cobalt	0.042	D1	0.0050		mg/L		04/22/20 06:33	04/30/20 21:30	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.4	M2	0.50		mg/L			04/23/20 12:41	1
Dissolved Organic Carbon - Duplicate	1.4	M2	0.50		mg/L			04/23/20 12:41	1
Dissolved Organic Carbon - Quad	1.4	M2	0.50		mg/L			04/23/20 12:41	1

Client Sample ID: CH-CCR-M53-0420
Lab Sample ID: 550-141150-3
Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400		mg/L			04/22/20 23:17	200
Fluoride	2.1	D1	0.80		mg/L			04/22/20 22:59	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 06:45	5
Sulfate	3100	D2	400		mg/L			04/22/20 23:17	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00055	E4	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:46	1
Boron	3.7	D1	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 13:37	5
Calcium	610		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:46	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:46	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 13:37	5
Magnesium	210		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:46	1
Manganese	5.2	D1	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:39	5
Potassium	15		0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:46	1
Sodium	1600	B3 D2	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:38	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:26	5
Barium	0.0087		0.00050		mg/L		04/22/20 06:44	04/23/20 22:54	1
Cadmium	0.0012		0.00010		mg/L		04/22/20 06:44	04/23/20 22:54	1
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:26	5
Cobalt	0.014	D1	0.0050		mg/L		04/22/20 06:44	04/30/20 22:24	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:54	1
Molybdenum	0.038	D1	0.0025		mg/L		05/04/20 05:28	05/04/20 18:48	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:26	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 22:54	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M53-0420

Lab Sample ID: 550-141150-3
Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	96		6.0		mg/L			04/23/20 09:58	1
Bicarbonate Alkalinity as CaCO3	96		6.0		mg/L			04/23/20 09:58	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:58	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 09:58	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:58	1
Total Dissolved Solids	8200	D2	100		mg/L			04/24/20 09:09	1
pH	7.5	H5	1.7		SU			04/24/20 15:00	1
Temperature	12.3	H5	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 19:35	1
Total Organic Carbon	1.2		0.50		mg/L			04/27/20 19:46	1
Total Organic Carbon - Duplicates	1.1		0.50		mg/L			04/27/20 19:46	1
Total Organic Carbon - Quad	1.2		0.50		mg/L			04/27/20 19:46	1

Client Sample ID: CH-CCR-M53-0420

Lab Sample ID: 550-141150-4
Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 22:53	1
Manganese	4.8		0.010		mg/L		04/22/20 13:34	04/27/20 22:53	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:03	5
Cobalt	0.016	D1	0.0050		mg/L		04/22/20 06:33	04/30/20 21:32	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50		mg/L			04/27/20 17:27	1
Dissolved Organic Carbon - Duplicate	1.2		0.50		mg/L			04/27/20 17:27	1
Dissolved Organic Carbon - Quad	1.2		0.50		mg/L			04/27/20 17:27	1

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-5
Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4600	D2	400		mg/L			04/23/20 02:22	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 02:03	2
Nitrate Nitrite as N	0.52	D1	0.50		mg/L			04/25/20 07:12	5
Sulfate	3500	D2	400		mg/L			04/23/20 02:22	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00059	E4	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:50	1
Boron	0.46	D1	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 13:49	5
Calcium	700		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:50	1
Iron	0.040	E4	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:50	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-5
Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 13:49	5
Magnesium	**160**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:50	1
Manganese	ND	D1 E8	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:43	5
Potassium	**6.5**		0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:50	1
Sodium	**2900**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:42	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0071**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:26	10
Barium	**0.014**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:26	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:28	5
Chromium	**0.016**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:26	10
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:28	5
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:57	1
Molybdenum	**0.0048**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 18:46	5
Selenium	**0.12**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:26	10
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 22:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**190**		6.0		mg/L			04/23/20 10:07	1
Bicarbonate Alkalinity as CaCO3	**190**		6.0		mg/L			04/23/20 10:07	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:07	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:07	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:07	1
Total Dissolved Solids	**11000**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.5**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**12.2**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 19:43	1
Total Organic Carbon	**3.2**		0.50		mg/L			04/23/20 19:35	1
Total Organic Carbon - Duplicates	**3.2**		0.50		mg/L			04/23/20 19:35	1
Total Organic Carbon - Quad	**3.2**		0.50		mg/L			04/23/20 19:35	1

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-6
Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 22:45	1
Manganese	ND		0.010		mg/L		04/22/20 13:34	04/27/20 22:45	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0050**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:34	10
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:05	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**3.4**		0.50		mg/L			04/23/20 13:36	1

Client Sample ID: CH-CCR-M55-0420
Lab Sample ID: 550-141150-6
Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	3.4		0.50		mg/L			04/23/20 13:36	1
Dissolved Organic Carbon - Quad	3.4		0.50		mg/L			04/23/20 13:36	1

Client Sample ID: CH-CCR-M69-0420
Lab Sample ID: 550-141150-7
Date Collected: 04/19/20 13:12
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400		mg/L			04/23/20 02:58	200
Fluoride	1.5	D1	0.80		mg/L			04/23/20 02:40	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 07:39	5
Sulfate	3000	D2	400		mg/L			04/23/20 02:58	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	0.00052	E4	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:54	1
Boron	3.7	D1	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 13:53	5
Calcium	630		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:54	1
Iron	0.21		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:54	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 13:53	5
Magnesium	170		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:54	1
Manganese	8.6	D1	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:47	5
Potassium	10		0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:54	1
Sodium	1800	B3 D2	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:46	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:30	5
Barium	0.027		0.00050		mg/L		04/22/20 06:44	04/23/20 22:59	1
Cadmium	0.00011		0.00010		mg/L		04/22/20 06:44	04/23/20 22:59	1
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:30	5
Cobalt	0.027	D1	0.0050		mg/L		04/22/20 06:44	04/30/20 22:28	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:59	1
Molybdenum	0.055	D1	0.0025		mg/L		05/04/20 05:28	05/04/20 18:53	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:30	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 22:59	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	140		6.0		mg/L			04/23/20 10:15	1
Bicarbonate Alkalinity as CaCO3	140		6.0		mg/L			04/23/20 10:15	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:15	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:15	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:15	1
Total Dissolved Solids	8000	D2	100		mg/L			04/24/20 09:09	1
pH	7.5	H5	1.7		SU			04/24/20 15:00	1
Temperature	13.8	H5	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 19:50	1
Total Organic Carbon	1.7		0.50		mg/L			04/27/20 20:00	1

Client Sample ID: CH-CCR-M69-0420

Lab Sample ID: 550-141150-7
Date Collected: 04/19/20 13:12
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**1.7**		0.50		mg/L			04/27/20 20:00	1
Total Organic Carbon - Quad	**1.7**		0.50		mg/L			04/27/20 20:00	1

Client Sample ID: CH-CCR-M69-0420

Lab Sample ID: 550-141150-8
Date Collected: 04/19/20 13:12
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 22:57	1
Manganese	**8.2**		0.010		mg/L		04/22/20 13:34	04/27/20 22:57	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:07	5
Cobalt	**0.026**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:36	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.7**		0.50		mg/L			04/23/20 13:50	1
Dissolved Organic Carbon - Duplicate	**1.7**		0.50		mg/L			04/23/20 13:50	1
Dissolved Organic Carbon - Quad	**1.7**		0.50		mg/L			04/23/20 13:50	1

Client Sample ID: CH-CCR-M70-0420

Lab Sample ID: 550-141150-9
Date Collected: 04/19/20 14:55
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**	**D2**	400		mg/L			04/23/20 04:12	200
Fluoride	**1.2**	**D1**	0.80		mg/L			04/23/20 03:53	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 08:34	5
Sulfate	**2700**	**D2**	400		mg/L			04/23/20 04:12	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:58	1
Boron	**2.4**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 13:57	5
Calcium	**640**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:58	1
Iron	**0.072**	**E4**	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:58	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 13:57	5
Magnesium	**160**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:58	1
Manganese	**1.8**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:51	5
Potassium	**11**		0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:58	1
Sodium	**1500**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:50	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:32	5
Barium	**0.014**		0.00050		mg/L		04/22/20 06:44	04/23/20 23:01	1
Cadmium	**0.00053**		0.00010		mg/L		04/22/20 06:44	04/23/20 23:01	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-0420

Lab Sample ID: 550-141150-9

Date Collected: 04/19/20 14:55
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:32	5
Cobalt	**0.025**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:31	10
Lead	**0.0023**		0.00050		mg/L		04/22/20 06:44	04/23/20 23:01	1
Molybdenum	**0.034**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 18:55	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:32	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:01	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**85**		6.0		mg/L			04/23/20 10:24	1
Bicarbonate Alkalinity as CaCO3	**85**		6.0		mg/L			04/23/20 10:24	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:24	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:24	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:24	1
Total Dissolved Solids	**7400**	**D2**	100		mg/L			04/24/20 09:09	1
pH	**7.5**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**13.9**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 19:59	1
Total Organic Carbon	**1.3**		0.50		mg/L			04/23/20 20:00	1
Total Organic Carbon - Duplicates	**1.3**		0.50		mg/L			04/23/20 20:00	1
Total Organic Carbon - Quad	**1.3**		0.50		mg/L			04/23/20 20:00	1

Client Sample ID: CH-CCR-M70-0420

Lab Sample ID: 550-141150-10

Date Collected: 04/19/20 14:55
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 23:01	1
Manganese	**1.8**		0.010		mg/L		04/22/20 13:34	04/27/20 23:01	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:09	5
Cobalt	**0.024**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:38	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.7**		0.50		mg/L			04/27/20 18:07	1
Dissolved Organic Carbon - Duplicate	**1.8**		0.50		mg/L			04/27/20 18:07	1
Dissolved Organic Carbon - Quad	**1.7**		0.50		mg/L			04/27/20 18:07	1

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-11

Date Collected: 04/18/20 13:37
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**6400**	**D2**	400		mg/L			04/23/20 04:49	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 04:30	2

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-11

Date Collected: 04/18/20 13:37

Matrix: Water

Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	**17**	**D1**	0.50		mg/L			04/25/20 09:02	5
Sulfate	**3600**	**D2**	400		mg/L			04/23/20 04:49	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00063**	**E4**	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:10	1
Boron	**0.70**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:01	5
Calcium	**690**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:10	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:10	1
Lithium	**0.41**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 14:01	5
Magnesium	**160**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:10	1
Manganese	**1.8**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 17:55	5
Potassium	**9.6**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/07/20 17:55	5
Sodium	**4100**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 19:54	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:34	5
Barium	**0.0082**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:33	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:34	5
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:34	5
Cobalt	**0.021**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:33	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:03	1
Molybdenum	**0.0051**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 18:57	5
Selenium	**0.0060**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:33	10
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:03	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**150**		6.0		mg/L			04/23/20 10:33	1
Bicarbonate Alkalinity as CaCO3	**150**		6.0		mg/L			04/23/20 10:33	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:33	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:33	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:33	1
Total Dissolved Solids	**14000**	**D2**	200		mg/L			04/23/20 09:33	1
pH	**7.4**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**14.7**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 20:06	1
Total Organic Carbon	**2.9**		0.50		mg/L			04/23/20 20:12	1
Total Organic Carbon - Duplicates	**2.9**		0.50		mg/L			04/23/20 20:12	1
Total Organic Carbon - Quad	**2.9**		0.50		mg/L			04/23/20 20:12	1

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-12

Date Collected: 04/18/20 13:37

Matrix: Water

Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 23:05	1
Manganese	**1.7**		0.010		mg/L		04/22/20 13:34	04/27/20 23:05	1

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-12
Date Collected: 04/18/20 13:37
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:11	5
Cobalt	**0.022**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:40	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**3.1**		0.50		mg/L			04/23/20 14:24	1
Dissolved Organic Carbon - Duplicate	**3.1**		0.50		mg/L			04/23/20 14:24	1
Dissolved Organic Carbon - Quad	**3.1**		0.50		mg/L			04/23/20 14:24	1

Client Sample ID: CH-CCR-W302-0420

Lab Sample ID: 550-141150-13
Date Collected: 04/17/20 09:45
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3000**	**D2**	400		mg/L			04/23/20 05:26	200
Fluoride	**0.97**	**D1**	0.80		mg/L			04/23/20 05:07	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 09:29	5
Sulfate	**2300**	**D2**	400		mg/L			04/23/20 05:26	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:14	1
Boron	**0.64**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:05	5
Calcium	**590**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:14	1
Iron	**0.40**		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:14	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 14:05	5
Magnesium	**120**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:14	1
Manganese	**0.022**	**D1 E4**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:07	5
Potassium	**6.5**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/07/20 18:07	5
Sodium	**1800**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:06	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:36	5
Barium	**0.013**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:35	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:36	5
Chromium	**0.086**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:35	10
Cobalt	**0.0064**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:35	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:05	1
Molybdenum	**0.012**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 18:59	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:36	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:05	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 10:43	1
Bicarbonate Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 10:43	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:43	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:43	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W302-0420

Lab Sample ID: 550-141150-13
Date Collected: 04/17/20 09:45
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:43	1
Total Dissolved Solids	**8100**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.4**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**15.7**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 20:13	1
Total Organic Carbon	**0.64**		0.50		mg/L			04/27/20 20:13	1
Total Organic Carbon - Duplicates	**0.62**		0.50		mg/L			04/27/20 20:13	1
Total Organic Carbon - Quad	**0.64**		0.50		mg/L			04/27/20 20:13	1

Client Sample ID: CH-CCR-W302-0420

Lab Sample ID: 550-141150-14
Date Collected: 04/17/20 09:45
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.14**		0.10		mg/L		04/22/20 13:34	04/27/20 23:09	1
Manganese	**0.027**		0.010		mg/L		04/22/20 13:34	04/27/20 23:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:17	5
Cobalt	**0.0064**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:47	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		0.50		mg/L			04/23/20 14:38	1
Dissolved Organic Carbon - Duplicate	**1.2**		0.50		mg/L			04/23/20 14:38	1
Dissolved Organic Carbon - Quad	**1.2**		0.50		mg/L			04/23/20 14:38	1

Client Sample ID: CH-CCR-W303-0420

Lab Sample ID: 550-141150-15
Date Collected: 04/18/20 14:49
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**D2**	400		mg/L			04/23/20 06:02	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 05:44	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/25/20 10:24	5
Sulfate	**3300**	**D2**	400		mg/L			04/23/20 06:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00059**	**E4**	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:18	1
Boron	**3.7**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:09	5
Calcium	**620**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:18	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:18	1
Lithium	ND	D1 E8	1.0	0.20	mg/L		04/22/20 13:37	05/05/20 14:09	5
Magnesium	**190**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:18	1
Manganese	**0.036**	**D1 E4**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:11	5
Potassium	**6.8**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/07/20 18:11	5

Client Sample ID: CH-CCR-W303-0420
Lab Sample ID: 550-141150-15
Date Collected: 04/18/20 14:49
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sodium	**2100**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:10	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:42	5
Barium	**0.0048**	**D1**	0.0025		mg/L		04/22/20 06:44	05/04/20 17:42	5
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:42	5
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:42	5
Cobalt	**0.027**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:41	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:11	1
Molybdenum	**0.024**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:01	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:42	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:11	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**150**		6.0		mg/L			04/23/20 10:51	1
Bicarbonate Alkalinity as CaCO3	**150**		6.0		mg/L			04/23/20 10:51	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:51	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 10:51	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 10:51	1
Total Dissolved Solids	**8900**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.5**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**14.6**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 20:20	1
Total Organic Carbon	**1.4**		0.50		mg/L			04/27/20 20:28	1
Total Organic Carbon - Duplicates	**1.4**		0.50		mg/L			04/27/20 20:28	1
Total Organic Carbon - Quad	**1.4**		0.50		mg/L			04/27/20 20:28	1

Client Sample ID: CH-CCR-W303-0420
Lab Sample ID: 550-141150-16
Date Collected: 04/18/20 14:49
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 23:13	1
Manganese	**0.023**		0.010		mg/L		04/22/20 13:34	04/27/20 23:13	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:19	5
Cobalt	**0.028**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:49	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.4**		0.50		mg/L			04/23/20 14:52	1
Dissolved Organic Carbon - Duplicate	**1.4**		0.50		mg/L			04/23/20 14:52	1
Dissolved Organic Carbon - Quad	**1.4**		0.50		mg/L			04/23/20 14:52	1

Client Sample ID: CH-CCR-W304-0420

Lab Sample ID: 550-141150-17

Date Collected: 04/17/20 11:16
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2700**	**D2**	400		mg/L			04/23/20 06:39	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 06:21	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 03:15	5
Sulfate	**2600**	**D2**	400		mg/L			04/23/20 06:39	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:22	1
Boron	**0.52**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:21	5
Calcium	**570**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:22	1
Iron	**0.11**		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:22	1
Lithium	**0.46**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:15	5
Magnesium	**94**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:22	1
Manganese	**0.89**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:15	5
Potassium	**5.0**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:21	5
Sodium	**2100**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:14	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:44	5
Barium	**0.0069**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:43	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:44	5
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:44	5
Cobalt	**0.0030**	**D1**	0.0025		mg/L		04/22/20 06:44	05/04/20 17:44	5
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:13	1
Molybdenum	**0.0046**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:03	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:44	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:13	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**140**		6.0		mg/L			04/23/20 11:18	1
Bicarbonate Alkalinity as CaCO3	**140**		6.0		mg/L			04/23/20 11:18	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:18	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 11:18	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:18	1
Total Dissolved Solids	**8400**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.4**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**15.3**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 20:27	1
Total Organic Carbon	**0.70**		0.50		mg/L			04/23/20 20:54	1
Total Organic Carbon - Duplicates	**0.73**		0.50		mg/L			04/23/20 20:54	1
Total Organic Carbon - Quad	**0.70**		0.50		mg/L			04/23/20 20:54	1

Client Sample ID: CH-CCR-W304-0420

Lab Sample ID: 550-141150-18

Date Collected: 04/17/20 11:16
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 23:17	1

Client Sample ID: CH-CCR-W304-0420

Lab Sample ID: 550-141150-18

Date Collected: 04/17/20 11:16
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Manganese	**0.82**		0.010		mg/L		04/22/20 13:34	04/27/20 23:17	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0029**	**D1**	0.0025		mg/L		04/22/20 06:33	05/01/20 20:21	5
Cobalt	**0.0032**	**D1**	0.0025		mg/L		04/22/20 06:33	05/01/20 20:21	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.97**		0.50		mg/L			04/23/20 15:05	1
Dissolved Organic Carbon - Duplicate	**0.97**		0.50		mg/L			04/23/20 15:05	1
Dissolved Organic Carbon - Quad	**0.97**		0.50		mg/L			04/23/20 15:05	1

Client Sample ID: CH-CCR-FD03-0420

Lab Sample ID: 550-141150-19

Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2300**	**D2**	400		mg/L			04/23/20 07:53	200
Fluoride	**2.1**	**D1**	0.80		mg/L			04/23/20 07:34	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 02:20	5
Sulfate	**3000**	**D2**	400		mg/L			04/23/20 07:53	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00050**	**E4**	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:26	1
Boron	**3.7**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:25	5
Calcium	**620**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:26	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:26	1
Lithium	**0.27**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:19	5
Magnesium	**210**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:26	1
Manganese	**5.0**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:19	5
Potassium	**12**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:25	5
Sodium	**1600**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:18	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:46	5
Barium	**0.0088**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:45	10
Cadmium	**0.0012**	**D1**	0.0010		mg/L		04/22/20 06:44	04/30/20 22:45	10
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:46	5
Cobalt	**0.014**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:45	10
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:15	1
Molybdenum	**0.039**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:09	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:46	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:15	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD03-0420

Lab Sample ID: 550-141150-19
Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**96**		6.0		mg/L			04/23/20 11:35	1
Bicarbonate Alkalinity as CaCO3	**96**		6.0		mg/L			04/23/20 11:35	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:35	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 11:35	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:35	1
Total Dissolved Solids	**7800**	**D2**	100		mg/L			04/24/20 09:09	1
pH	**7.4**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**15.0**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 20:37	1
Total Organic Carbon	**1.2**		0.50		mg/L			04/27/20 20:41	1
Total Organic Carbon - Duplicates	**1.2**		0.50		mg/L			04/27/20 20:41	1
Total Organic Carbon - Quad	**1.2**		0.50		mg/L			04/27/20 20:41	1

Client Sample ID: CH-CCR-FD03-0420

Lab Sample ID: 550-141150-20
Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:27	1
Manganese	**5.0**		0.010		mg/L		04/22/20 13:34	04/30/20 17:37	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:23	5
Cobalt	**0.014**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:53	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.3**		0.50		mg/L			04/27/20 18:22	1
Dissolved Organic Carbon - Duplicate	**1.3**		0.50		mg/L			04/27/20 18:22	1
Dissolved Organic Carbon - Quad	**1.3**		0.50		mg/L			04/27/20 18:22	1

Client Sample ID: CH-CCR-W305-0420

Lab Sample ID: 550-141150-21
Date Collected: 04/18/20 16:24
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2400**	**D2**	400		mg/L			04/23/20 08:30	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 08:11	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 01:53	5
Sulfate	**2300**	**D2**	400		mg/L			04/23/20 08:30	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:30	1
Boron	**0.41**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:29	5
Calcium	**680**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:30	1
Iron	**0.48**		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:30	1

Client Sample ID: CH-CCR-W305-0420

Lab Sample ID: 550-141150-21
Date Collected: 04/18/20 16:24
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.30	D1 E4	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:23	5
Magnesium	110		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:30	1
Manganese	8.1	D1	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:23	5
Potassium	1.4	D1 E4	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:29	5
Sodium	1600	B3 D2	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:22	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:48	5
Barium	0.014	D1	0.0050		mg/L		04/22/20 06:44	04/30/20 22:47	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:48	5
Chromium	0.0069	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:48	5
Cobalt	0.020	D1	0.0050		mg/L		04/22/20 06:44	04/30/20 22:47	10
Lead	0.0024		0.00050		mg/L		04/22/20 06:44	04/23/20 23:17	1
Molybdenum	0.021	D1	0.0025		mg/L		05/04/20 05:28	05/04/20 19:11	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:48	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:17	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	100		6.0		mg/L			04/23/20 11:44	1
Bicarbonate Alkalinity as CaCO3	100		6.0		mg/L			04/23/20 11:44	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:44	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 11:44	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:44	1
Total Dissolved Solids	7600	D2	100		mg/L			04/23/20 09:33	1
pH	7.4	H5	1.7		SU			04/24/20 15:00	1
Temperature	15.0	H5	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 21:04	1
Total Organic Carbon	1.8		0.50		mg/L			04/23/20 21:50	1
Total Organic Carbon - Duplicates	1.8		0.50		mg/L			04/23/20 21:50	1
Total Organic Carbon - Quad	1.8		0.50		mg/L			04/23/20 21:50	1

Client Sample ID: CH-CCR-W305-0420

Lab Sample ID: 550-141150-22
Date Collected: 04/18/20 16:24
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.28		0.10		mg/L		04/22/20 13:34	04/29/20 03:31	1
Manganese	7.3		0.010		mg/L		04/22/20 13:34	04/30/20 17:41	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:25	5
Cobalt	0.020	D1	0.0050		mg/L		04/22/20 06:33	04/30/20 21:55	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7		0.50		mg/L			04/23/20 16:06	1

Client Sample ID: CH-CCR-W305-0420

Lab Sample ID: 550-141150-22

Date Collected: 04/18/20 16:24
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon - Duplicate	**1.7**		0.50		mg/L			04/23/20 16:06	1
Dissolved Organic Carbon - Quad	**1.7**		0.50		mg/L			04/23/20 16:06	1

Client Sample ID: CH-CCR-W306-0420

Lab Sample ID: 550-141150-23

Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2000**	**D2**	400		mg/L			04/23/20 09:06	200
Fluoride	**1.1**	**D1**	0.80		mg/L			04/23/20 08:48	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 01:25	5
Sulfate	**13000**	**D2**	400		mg/L			04/23/20 09:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0017**		0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:34	1
Boron	**1.2**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:33	5
Calcium	**400**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:34	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:34	1
Lithium	**1.3**	**D1**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:27	5
Magnesium	**230**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:34	1
Manganese	ND	D1 E8	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:27	5
Potassium	**3.6**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:33	5
Sodium	**5700**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:26	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0050**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:49	10
Barium	**0.012**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:49	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:51	5
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:51	5
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:51	5
Lead	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:51	5
Molybdenum	**0.042**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:13	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:51	5
Thallium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:51	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 11:52	1
Bicarbonate Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 11:52	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:52	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 11:52	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 11:52	1
Total Dissolved Solids	**19000**	**D2**	200		mg/L			04/24/20 09:09	1
pH	**7.8**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**14.9**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 21:11	1
Total Organic Carbon	**2.4**		0.50		mg/L			04/23/20 22:03	1

Client Sample ID: CH-CCR-W306-0420

Lab Sample ID: 550-141150-23

Date Collected: 04/19/20 08:12
Date Received: 04/21/20 14:51
Matrix: Water

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon - Duplicates	**2.4**		0.50		mg/L			04/23/20 22:03	1
Total Organic Carbon - Quad	**2.4**		0.50		mg/L			04/23/20 22:03	1

Client Sample ID: CH-CCR-W306-0420

Lab Sample ID: 550-141150-24

Date Collected: 04/19/20 08:12
Date Received: 04/21/20 14:51
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:35	1
Manganese	ND		0.010		mg/L		04/22/20 13:34	04/30/20 17:45	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0055**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:57	10
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:28	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.6**		0.50		mg/L			04/23/20 16:19	1
Dissolved Organic Carbon - Duplicate	**2.6**		0.50		mg/L			04/23/20 16:19	1
Dissolved Organic Carbon - Quad	**2.6**		0.50		mg/L			04/23/20 16:19	1

Client Sample ID: CH-CCR-W307-0420

Lab Sample ID: 550-141150-25

Date Collected: 04/17/20 12:27
Date Received: 04/21/20 14:51
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2600**	**D2**	400		mg/L			04/23/20 09:43	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 09:25	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 00:31	5
Sulfate	**2500**	**D2**	400		mg/L			04/23/20 09:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:38	1
Boron	**2.7**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:37	5
Calcium	**710**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:38	1
Iron	**0.16**		0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:38	1
Lithium	**0.29**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:31	5
Magnesium	**130**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:38	1
Manganese	**0.030**	**D1 E4**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:31	5
Potassium	**4.2**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:37	5
Sodium	**1600**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:30	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:53	5
Barium	**0.012**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:51	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:53	5

Client Sample ID: CH-CCR-W307-0420
Lab Sample ID: 550-141150-25
Date Collected: 04/17/20 12:27
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	**0.013**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:51	10
Cobalt	**0.084**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:51	10
Lead	**0.0011**		0.00050		mg/L		04/22/20 06:44	04/23/20 23:22	1
Molybdenum	**0.011**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:15	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:53	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:22	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**110**		6.0		mg/L			04/23/20 12:01	1
Bicarbonate Alkalinity as CaCO3	**110**		6.0		mg/L			04/23/20 12:01	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:01	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 12:01	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:01	1
Total Dissolved Solids	**8000**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.3**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**15.1**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 21:18	1
Total Organic Carbon	**1.3**		0.50		mg/L			04/29/20 14:55	1
Total Organic Carbon - Duplicates	**1.3**		0.50		mg/L			04/29/20 14:55	1
Total Organic Carbon - Quad	**1.3**		0.50		mg/L			04/29/20 14:55	1

Client Sample ID: CH-CCR-W307-0420
Lab Sample ID: 550-141150-26
Date Collected: 04/17/20 12:27
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:39	1
Manganese	**0.027**		0.010		mg/L		04/22/20 13:34	04/30/20 17:49	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:30	5
Cobalt	**0.085**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 21:59	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.6**		0.50		mg/L			04/23/20 16:31	1
Dissolved Organic Carbon - Duplicate	**1.6**		0.50		mg/L			04/23/20 16:31	1
Dissolved Organic Carbon - Quad	**1.6**		0.50		mg/L			04/23/20 16:31	1

Client Sample ID: CH-CCR-W308-0420
Lab Sample ID: 550-141150-27
Date Collected: 04/17/20 14:18
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2900**	**D2**	400		mg/L			04/23/20 10:20	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 10:02	2

Client Sample ID: CH-CCR-W308-0420

Lab Sample ID: 550-141150-27
Date Collected: 04/17/20 14:18
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/29/20 00:03	5
Sulfate	**2500**	**D2**	400		mg/L			04/23/20 10:20	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:42	1
Boron	**0.50**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:41	5
Calcium	**760**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:42	1
Iron	**0.031**	**E4**	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:42	1
Lithium	**0.46**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:35	5
Magnesium	**120**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:42	1
Manganese	**0.072**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:35	5
Potassium	**6.4**	**D1**	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:41	5
Sodium	**2100**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:34	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:55	5
Barium	**0.0072**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:53	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:55	5
Chromium	**0.077**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:53	10
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:55	5
Lead	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:55	5
Molybdenum	**0.0052**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:17	5
Selenium	**0.020**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:53	10
Thallium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:55	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**170**		6.0		mg/L			04/23/20 12:10	1
Bicarbonate Alkalinity as CaCO3	**170**		6.0		mg/L			04/23/20 12:10	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:10	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 12:10	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:10	1
Total Dissolved Solids	**8600**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.3**	**H5**	1.7		SU			04/24/20 15:00	1
Temperature	**16.1**	**H5**	0.1		Degrees C			04/24/20 15:00	1
Ammonia	ND		0.50		mg/L			04/22/20 21:25	1
Total Organic Carbon	**1.0**		0.50		mg/L			04/23/20 22:30	1
Total Organic Carbon - Duplicates	**1.1**		0.50		mg/L			04/23/20 22:30	1
Total Organic Carbon - Quad	**1.0**		0.50		mg/L			04/23/20 22:30	1

Client Sample ID: CH-CCR-W308-0420

Lab Sample ID: 550-141150-28
Date Collected: 04/17/20 14:18
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:43	1
Manganese	**0.073**		0.010		mg/L		04/22/20 13:34	04/30/20 17:53	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W308-0420
Lab Sample ID: 550-141150-28
Date Collected: 04/17/20 14:18
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0025**	**D1**	0.0025		mg/L		04/22/20 06:33	05/01/20 20:32	5
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:32	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		0.50		mg/L			04/23/20 16:44	1
Dissolved Organic Carbon - Duplicate	**1.2**		0.50		mg/L			04/23/20 16:44	1
Dissolved Organic Carbon - Quad	**1.2**		0.50		mg/L			04/23/20 16:44	1

Client Sample ID: CH-CCR-W314-0420
Lab Sample ID: 550-141150-29
Date Collected: 04/19/20 16:09
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2900**	**D2**	400		mg/L			04/23/20 11:34	200
Fluoride	**0.84**	**D1**	0.80		mg/L			04/23/20 11:15	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/28/20 23:36	5
Sulfate	**2300**	**D2**	400		mg/L			04/23/20 11:34	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 18:46	1
Boron	**1.4**	**D1**	0.25	0.015	mg/L		04/22/20 13:37	05/05/20 14:45	5
Calcium	**790**		2.0	0.015	mg/L		04/22/20 13:37	04/28/20 18:46	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 18:46	1
Lithium	**0.44**	**D1 E4**	1.0	0.20	mg/L		04/22/20 13:37	05/07/20 18:39	5
Magnesium	**170**		2.0	0.055	mg/L		04/22/20 13:37	04/28/20 18:46	1
Manganese	**0.063**	**D1**	0.050	0.015	mg/L		04/22/20 13:37	05/07/20 18:39	5
Potassium	ND	D1 E8	2.5	0.73	mg/L		04/22/20 13:37	05/05/20 14:45	5
Sodium	**1500**	**B3 D2**	5.0	0.28	mg/L		04/22/20 13:37	04/30/20 20:38	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:57	5
Barium	**0.011**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:56	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:57	5
Chromium	**0.010**	**D1**	0.010		mg/L		04/22/20 06:44	04/30/20 22:56	10
Cobalt	**0.022**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:56	10
Lead	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:57	5
Molybdenum	**0.010**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:20	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:57	5
Thallium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:57	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**98**		6.0		mg/L			04/23/20 12:18	1
Bicarbonate Alkalinity as CaCO3	**98**		6.0		mg/L			04/23/20 12:18	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:18	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 12:18	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-29
Matrix: Water
Date Collected: 04/19/20 16:09
Date Received: 04/21/20 14:51

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:18	1
Total Dissolved Solids	**7600**	**D2**	100		mg/L			04/24/20 09:09	1
pH	**7.5**	**H5**	1.7		SU			04/27/20 13:46	1
Temperature	**8.0**	**H5**	0.1		Degrees C			04/27/20 13:46	1
Ammonia	ND		0.50		mg/L			04/22/20 21:32	1
Total Organic Carbon	**0.97**		0.50		mg/L			04/23/20 22:46	1
Total Organic Carbon - Duplicates	**0.98**		0.50		mg/L			04/23/20 22:46	1
Total Organic Carbon - Quad	**0.97**		0.50		mg/L			04/23/20 22:46	1

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-30
Matrix: Water
Date Collected: 04/19/20 16:09
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:47	1
Manganese	**0.057**		0.010		mg/L		04/22/20 13:34	04/30/20 18:05	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:34	5
Cobalt	**0.023**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 22:03	10

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.0**		0.50		mg/L			04/23/20 16:58	1
Dissolved Organic Carbon - Duplicate	**1.1**		0.50		mg/L			04/23/20 16:58	1
Dissolved Organic Carbon - Quad	**1.0**		0.50		mg/L			04/23/20 16:58	1

Client Sample ID: CH-CCR-W317-0420

Lab Sample ID: 550-141150-31
Matrix: Water
Date Collected: 04/16/20 16:48
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**	**D2**	400		mg/L			04/23/20 12:10	200
Fluoride	ND	D1 D5	0.80		mg/L			04/23/20 11:52	2
Sulfate	**730**	**D2**	400		mg/L			04/23/20 12:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:34	04/29/20 03:59	1
Boron	**0.21**		0.050	0.0030	mg/L		04/22/20 13:34	04/30/20 18:17	1
Calcium	**350**		2.0	0.015	mg/L		04/22/20 13:34	04/29/20 03:59	1
Lithium	**0.042**	**E4**	0.20	0.040	mg/L		04/22/20 13:34	05/05/20 12:29	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0038**	**D1**	0.0025		mg/L		04/22/20 06:44	05/04/20 17:59	5
Barium	**0.031**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 22:58	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 17:59	5

Client Sample ID: CH-CCR-W317-0420

Lab Sample ID: 550-141150-31

Date Collected: 04/16/20 16:48
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 17:59	5
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:59	5
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 23:28	1
Molybdenum	**0.0037**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:22	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 17:59	5
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 23:28	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3700**	**D2**	100		mg/L			04/23/20 09:33	1
pH	**7.5**	**H5**	1.7		SU			04/27/20 13:46	1
Temperature	**8.4**	**H5**	0.1		Degrees C			04/27/20 13:46	1

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-32

Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1800**	**D2**	400		mg/L			04/29/20 02:03	200
Fluoride	**1.5**	**D1**	0.80		mg/L			04/29/20 01:35	2
Nitrate Nitrite as N	ND	D1 D5	0.50		mg/L			04/30/20 21:14	5
Sulfate	**12000**	**D2**	400		mg/L			04/29/20 02:03	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.0017**		0.0010	0.00050	mg/L		04/22/20 13:34	04/29/20 04:03	1
Boron	**1.1**		0.050	0.0030	mg/L		04/22/20 13:34	04/30/20 18:21	1
Calcium	**400**		2.0	0.015	mg/L		04/22/20 13:34	04/29/20 04:03	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:34	04/29/20 04:03	1
Lithium	**1.2**		0.20	0.040	mg/L		04/22/20 13:34	05/05/20 12:33	1
Magnesium	**230**		2.0	0.055	mg/L		04/22/20 13:34	04/29/20 04:03	1
Manganese	ND	E8	0.010	0.0030	mg/L		04/22/20 13:34	04/30/20 18:21	1
Potassium	**9.7**		0.50	0.15	mg/L		04/22/20 13:34	04/30/20 18:21	1
Sodium	**5500**	**D2**	5.0	0.28	mg/L		04/22/20 13:34	04/30/20 16:59	10

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0048**	**D1**	0.0025		mg/L		04/22/20 06:44	05/04/20 18:01	5
Barium	**0.011**	**D1**	0.0050		mg/L		04/22/20 06:44	04/30/20 23:00	10
Cadmium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 18:01	5
Chromium	ND	D1	0.0050		mg/L		04/22/20 06:44	05/04/20 18:01	5
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 18:01	5
Lead	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 18:01	5
Molybdenum	**0.039**	**D1**	0.0025		mg/L		05/04/20 05:28	05/04/20 19:24	5
Selenium	ND	D1	0.0025		mg/L		04/22/20 06:44	05/04/20 18:01	5
Thallium	ND	D1	0.00050		mg/L		04/22/20 06:44	05/04/20 18:01	5

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 12:26	1

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-32
Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bicarbonate Alkalinity as CaCO3	**130**		6.0		mg/L			04/23/20 12:26	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:26	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 12:26	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 12:26	1
Total Dissolved Solids	**19000**	**D1 D2**	200		mg/L			04/24/20 09:09	1
pH	**7.9**	**H5**	1.7		SU			04/27/20 13:46	1
Temperature	**10.0**	**H5**	0.1		Degrees C			04/27/20 13:46	1
Ammonia	ND		0.50		mg/L			04/22/20 21:38	1
Total Organic Carbon	**2.5**		0.50		mg/L			04/23/20 23:02	1
Total Organic Carbon - Duplicates	**2.5**		0.50		mg/L			04/23/20 23:02	1
Total Organic Carbon - Quad	**2.5**		0.50		mg/L			04/23/20 23:02	1

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-33
Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/29/20 03:51	1
Manganese	ND		0.010		mg/L		04/22/20 13:34	04/30/20 18:09	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0051**	**D1**	0.0050		mg/L		04/22/20 06:33	04/30/20 22:05	10
Cobalt	ND	D1	0.0025		mg/L		04/22/20 06:33	05/01/20 20:36	5

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.7**		0.50		mg/L			04/23/20 17:13	1
Dissolved Organic Carbon - Duplicate	**2.7**		0.50		mg/L			04/23/20 17:13	1
Dissolved Organic Carbon - Quad	**2.7**		0.50		mg/L			04/23/20 17:13	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-208652/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			04/22/20 19:00	1
Fluoride	ND		0.40		mg/L			04/22/20 19:00	1
Sulfate	ND		2.0		mg/L			04/22/20 19:00	1

Lab Sample ID: LCS 550-208652/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.2		mg/L		106	90 - 110
Fluoride	4.00	4.17		mg/L		104	90 - 110
Sulfate	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-208652/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.2		mg/L		106	90 - 110	0	20
Fluoride	4.00	4.17		mg/L		104	90 - 110	0	20
Sulfate	20.0	20.4		mg/L		102	90 - 110	0	20

Lab Sample ID: 550-141150-1 MS — **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	0.88	D1	8.00	8.19	D1	mg/L		91	80 - 120

Lab Sample ID: 550-141150-1 MS — **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4300	D2	4000	8540	D2	mg/L		106	80 - 120
Sulfate	3400	D2	4000	7560	D2	mg/L		104	80 - 120

Lab Sample ID: 550-141150-1 MSD — **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	0.88	D1	8.00	8.41	D1	mg/L		94	80 - 120	3	20

Lab Sample ID: 550-141150-1 MSD — **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4300	D2	4000	8470	D2	mg/L		104	80 - 120	1	20

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-141150-1 MSD **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208652

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	3400	D2	4000	7510	D2	mg/L		103	80 - 120	1	20

Lab Sample ID: MB 550-208874/2 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10		mg/L			04/24/20 16:32	1

Lab Sample ID: LCS 550-208874/7 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.36		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-208874/8 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.35		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-141150-1 MS **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	D1 D5	40.0	38.0	D1	mg/L		95	80 - 120

Lab Sample ID: 550-141150-1 MSD **Client Sample ID: CH-CCR-M52-0420**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	D1 D5	40.0	38.5	D1	mg/L		96	80 - 120	1	20

Lab Sample ID: 550-141309-B-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	0.85		8.00	9.39		mg/L		107	80 - 120

Lab Sample ID: 550-141309-B-1 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 208874

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	0.85		8.00	9.34		mg/L		106	80 - 120	1	20

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 550-209010/2
Matrix: Water
Analysis Batch: 209010

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		2.0		mg/L			04/28/20 12:21	1
Fluoride	ND		0.40		mg/L			04/28/20 12:21	1
Sulfate	ND		2.0		mg/L			04/28/20 12:21	1

Lab Sample ID: LCS 550-209010/5
Matrix: Water
Analysis Batch: 209010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.1		mg/L		105	90 - 110
Fluoride	4.00	4.16		mg/L		104	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-209010/6
Matrix: Water
Analysis Batch: 209010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.0		mg/L		105	90 - 110	0	20
Fluoride	4.00	4.13		mg/L		103	90 - 110	1	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-141388-A-1 MS
Matrix: Water
Analysis Batch: 209010

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	16	M1	20.0	43.9	M1	mg/L		138	80 - 120
Fluoride	ND	M1 R13	4.00	5.30	M1 R13	mg/L		130	80 - 120
Sulfate	3.2	M1	20.0	29.2	M1	mg/L		130	80 - 120

Lab Sample ID: 550-141388-A-1 MSD
Matrix: Water
Analysis Batch: 209010

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	16	M1	20.0	38.7		mg/L		112	80 - 120	13	20
Fluoride	ND	M1 R13	4.00	4.27	R13	mg/L		105	80 - 120	21	20
Sulfate	3.2	M1	20.0	23.9		mg/L		104	80 - 120	20	20

Lab Sample ID: MB 550-209011/2
Matrix: Water
Analysis Batch: 209011

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10		mg/L			04/28/20 12:21	1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 550-209011/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209011

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			8.00	8.44		mg/L		106	90 - 110		

Lab Sample ID: LCSD 550-209011/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209011

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.45		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-141420-A-4 MS — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209011

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	14		8.00	21.5		mg/L		94	80 - 120		

Lab Sample ID: 550-141420-A-4 MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209011

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	14		8.00	21.7		mg/L		96	80 - 120	1	20

Lab Sample ID: MB 550-209282/2 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209282

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND		0.10		mg/L			04/30/20 15:29	1

Lab Sample ID: LCS 550-209282/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209282

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N			8.00	8.54		mg/L		107	90 - 110		

Lab Sample ID: LCSD 550-209282/6 — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209282

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.55		mg/L		107	90 - 110	0	20

Lab Sample ID: 550-141235-B-3 MS ^5 — **Client Sample ID: Matrix Spike**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 209282

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Nitrate Nitrite as N	1.4	D1	40.0	42.5	D1	mg/L		103	80 - 120		

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: 550-141235-B-3 MSD ^5
Matrix: Water
Analysis Batch: 209282

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	1.4	D1	40.0	42.3	D1	mg/L		102	80 - 120	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-208528/1-A
Matrix: Water
Analysis Batch: 208945

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.10		mg/L		04/22/20 13:34	04/27/20 22:25	1
Manganese	ND		0.010		mg/L		04/22/20 13:34	04/27/20 22:25	1

Lab Sample ID: MB 550-208528/1-A
Matrix: Water
Analysis Batch: 209335

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0030	mg/L		04/22/20 13:34	04/30/20 16:35	1
Potassium	ND	E8	0.50	0.15	mg/L		04/22/20 13:34	04/30/20 16:35	1
Sodium	0.141	E4	0.50	0.028	mg/L		04/22/20 13:34	04/30/20 16:35	1
Manganese	ND	E8	0.010	0.0030	mg/L		04/22/20 13:34	04/30/20 16:35	1

Lab Sample ID: MB 550-208528/1-A
Matrix: Water
Analysis Batch: 209509

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		2.0		mg/L		04/22/20 13:34	05/04/20 15:12	1
Potassium	ND		0.50		mg/L		04/22/20 13:34	05/04/20 15:12	1

Lab Sample ID: MB 550-208528/1-A
Matrix: Water
Analysis Batch: 209650

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208528

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:34	05/05/20 11:56	1
Calcium	0.0153	E4	2.0	0.015	mg/L		04/22/20 13:34	05/05/20 11:56	1
Lithium	ND	E8	0.20	0.040	mg/L		04/22/20 13:34	05/05/20 11:56	1

Lab Sample ID: LCS 550-208528/2-A
Matrix: Water
Analysis Batch: 208945

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.981		mg/L		98	85 - 115
Manganese	1.00	0.988		mg/L		99	85 - 115

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-208528/2-A
Matrix: Water
Analysis Batch: 209335

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	0.995		mg/L		99	85 - 115
Potassium	20.0	18.7		mg/L		93	85 - 115
Sodium	20.0	19.2		mg/L		96	85 - 115
Manganese	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCS 550-208528/2-A
Matrix: Water
Analysis Batch: 209509

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	21.0	20.8		mg/L		99	85 - 115
Potassium	20.0	19.5		mg/L		97	85 - 115

Lab Sample ID: LCS 550-208528/2-A
Matrix: Water
Analysis Batch: 209650

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.998		mg/L		100	85 - 115
Calcium	21.0	20.5		mg/L		97	85 - 115
Lithium	1.00	0.909		mg/L		91	85 - 115

Lab Sample ID: LCSD 550-208528/3-A
Matrix: Water
Analysis Batch: 208945

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	0.971		mg/L		97	85 - 115	1	20
Manganese	1.00	0.980		mg/L		98	85 - 115	1	20

Lab Sample ID: LCSD 550-208528/3-A
Matrix: Water
Analysis Batch: 209335

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.00		mg/L		100	85 - 115	0	20
Potassium	20.0	18.8		mg/L		94	85 - 115	1	20
Sodium	20.0	19.4		mg/L		97	85 - 115	1	20
Manganese	1.00	1.01		mg/L		101	85 - 115	0	20

Lab Sample ID: LCSD 550-208528/3-A
Matrix: Water
Analysis Batch: 209509

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	21.0	20.7		mg/L		99	85 - 115	0	20
Potassium	20.0	19.5		mg/L		97	85 - 115	0	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCSD 550-208528/3-A
Matrix: Water
Analysis Batch: 209650

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208528

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.07		mg/L		107	85 - 115	7	20
Calcium	21.0	22.1		mg/L		105	85 - 115	7	20
Lithium	1.00	0.996		mg/L		100	85 - 115	9	20

Lab Sample ID: MB 550-208529/1-A
Matrix: Water
Analysis Batch: 209071

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.00050	mg/L		04/22/20 13:37	04/28/20 17:02	1
Calcium	ND	E8	2.0	0.015	mg/L		04/22/20 13:37	04/28/20 17:02	1
Magnesium	ND	E8	2.0	0.055	mg/L		04/22/20 13:37	04/28/20 17:02	1
Potassium	ND	E8	0.50	0.15	mg/L		04/22/20 13:37	04/28/20 17:02	1
Sodium	ND	E8	0.50	0.028	mg/L		04/22/20 13:37	04/28/20 17:02	1
Iron	ND	E8	0.10	0.030	mg/L		04/22/20 13:37	04/28/20 17:02	1

Lab Sample ID: MB 550-208529/1-A
Matrix: Water
Analysis Batch: 209651

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND	E8	0.050	0.0030	mg/L		04/22/20 13:37	05/05/20 12:45	1
Lithium	ND	E8	0.20	0.040	mg/L		04/22/20 13:37	05/05/20 12:45	1

Lab Sample ID: MB 550-208529/1-A
Matrix: Water
Analysis Batch: 209859

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208529

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.20	0.040	mg/L		04/22/20 13:37	05/07/20 17:11	1
Potassium	ND	E8	0.50	0.15	mg/L		04/22/20 13:37	05/07/20 17:11	1
Manganese	ND	E8	0.010	0.0030	mg/L		04/22/20 13:37	05/07/20 17:11	1

Lab Sample ID: LCS 550-208529/2-A
Matrix: Water
Analysis Batch: 209071

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	1.04		mg/L		104	85 - 115
Calcium	21.0	21.2		mg/L		101	85 - 115
Magnesium	21.0	20.7		mg/L		99	85 - 115
Potassium	20.0	19.1		mg/L		96	85 - 115
Sodium	20.0	19.3		mg/L		97	85 - 115
Iron	1.00	1.00		mg/L		100	85 - 115

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: LCS 550-208529/2-A
Matrix: Water
Analysis Batch: 209651
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.08		mg/L		108	85 - 115
Lithium	1.00	0.926		mg/L		93	85 - 115

Lab Sample ID: LCS 550-208529/2-A
Matrix: Water
Analysis Batch: 209859
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.08		mg/L		108	85 - 115
Potassium	20.0	21.9		mg/L		109	85 - 115
Manganese	1.00	1.06		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-208529/3-A
Matrix: Water
Analysis Batch: 209071
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	1.04		mg/L		104	85 - 115	0	20
Calcium	21.0	21.1		mg/L		101	85 - 115	0	20
Magnesium	21.0	20.6		mg/L		98	85 - 115	1	20
Potassium	20.0	19.1		mg/L		95	85 - 115	0	20
Sodium	20.0	19.3		mg/L		97	85 - 115	0	20
Iron	1.00	1.00		mg/L		100	85 - 115	0	20

Lab Sample ID: LCSD 550-208529/3-A
Matrix: Water
Analysis Batch: 209651
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.07		mg/L		107	85 - 115	1	20
Lithium	1.00	0.969		mg/L		97	85 - 115	5	20

Lab Sample ID: LCSD 550-208529/3-A
Matrix: Water
Analysis Batch: 209859
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	1.00	1.05		mg/L		105	85 - 115	3	20
Potassium	20.0	21.3		mg/L		107	85 - 115	3	20
Manganese	1.00	1.08		mg/L		108	85 - 115	2	20

Lab Sample ID: 550-141149-B-3-B MS
Matrix: Water
Analysis Batch: 209071
Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130
Calcium	280	M3	21.0	284	M3	mg/L		-3	70 - 130
Magnesium	110	M3	21.0	121	M3	mg/L		58	70 - 130
Potassium	7.8		20.0	28.1		mg/L		102	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-141149-B-3-B MS
Matrix: Water
Analysis Batch: 209071

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.43		1.00	1.37		mg/L		94	70 - 130

Lab Sample ID: 550-141149-B-3-B MS ^10
Matrix: Water
Analysis Batch: 209337

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	980	D2 B3 M3	20.0	925	M3	mg/L		-271	70 - 130

Lab Sample ID: 550-141149-B-3-B MS ^5
Matrix: Water
Analysis Batch: 209651

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.23	E4 D1	1.00	1.30	D1	mg/L		107	70 - 130
Lithium	ND	E8 D1	1.00	0.735	D1 E4	mg/L		73	70 - 130

Lab Sample ID: 550-141149-B-3-B MS ^5
Matrix: Water
Analysis Batch: 209859

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	ND	E8 D1	1.00	1.05		mg/L		105	70 - 130
Potassium	7.5	D1	20.0	27.0		mg/L		97	70 - 130
Manganese	2.3	D1	1.00	3.13		mg/L		81	70 - 130

Lab Sample ID: 550-141149-B-3-C MSD
Matrix: Water
Analysis Batch: 209071

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND	E8	1.00	1.02		mg/L		102	70 - 130	1	20
Calcium	280	M3	21.0	294	M3	mg/L		45	70 - 130	3	20
Magnesium	110	M3	21.0	125	M3	mg/L		77	70 - 130	3	20
Potassium	7.8		20.0	28.7		mg/L		105	70 - 130	2	20
Iron	0.43		1.00	1.39		mg/L		96	70 - 130	2	20

Lab Sample ID: 550-141149-B-3-C MSD ^10
Matrix: Water
Analysis Batch: 209337

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	980	D2 B3 M3	20.0	1020	M3	mg/L		203	70 - 130	10	20

Lab Sample ID: 550-141149-B-3-C MSD ^5
Matrix: Water
Analysis Batch: 209651

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.23	E4 D1	1.00	1.32	D1	mg/L		110	70 - 130	2	20

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-141149-B-3-C MSD ^5
Matrix: Water
Analysis Batch: 209651
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	ND	E8 D1	1.00	0.766	D1 E4	mg/L		77	70 - 130	4	20

Lab Sample ID: 550-141149-B-3-C MSD ^5
Matrix: Water
Analysis Batch: 209859
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 208529

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	ND	E8 D1	1.00	1.09		mg/L		109	70 - 130	4	20
Potassium	7.5	D1	20.0	28.3		mg/L		104	70 - 130	5	20
Manganese	2.3	D1	1.00	3.31		mg/L		99	70 - 130	6	20

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 208945
Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	ND		1.00	0.974		mg/L		97	70 - 130
Manganese	ND		1.00	0.981		mg/L		98	70 - 130

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 209335
Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sodium	3100	M3 D2	20.0	2800	M3	mg/L		-1615	70 - 130

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 209335
Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.42		1.00	1.50		mg/L		108	70 - 130
Potassium	4.9		20.0	25.0		mg/L		100	70 - 130
Manganese	ND		1.00	1.00		mg/L		100	70 - 130

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 209509
Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Magnesium	160	M3	21.0	169	M3	mg/L		23	70 - 130
Potassium	5.6		20.0	27.1		mg/L		108	70 - 130

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 209650
Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	ND		1.00	1.03		mg/L		103	70 - 130
Boron	0.47		1.00	1.52		mg/L		105	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-141150-6 MS
Matrix: Water
Analysis Batch: 209650

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Calcium	740	M3	21.0	693	M3	mg/L		-240	70 - 130
Lithium	0.55		1.00	1.64		mg/L		109	70 - 130

Lab Sample ID: 550-141150-6 MSD
Matrix: Water
Analysis Batch: 208945

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	ND		1.00	0.965		mg/L		97	70 - 130	1	20
Manganese	ND		1.00	0.990		mg/L		99	70 - 130	1	20

Lab Sample ID: 550-141150-6 MSD
Matrix: Water
Analysis Batch: 209335

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sodium	3100	M3 D2	20.0	2910	M3	mg/L		-1061	70 - 130	4	20

Lab Sample ID: 550-141150-6 MSD
Matrix: Water
Analysis Batch: 209335

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.42		1.00	1.49		mg/L		107	70 - 130	1	20
Potassium	4.9		20.0	25.9		mg/L		105	70 - 130	4	20
Manganese	ND		1.00	0.998		mg/L		100	70 - 130	1	20

Lab Sample ID: 550-141150-6 MSD
Matrix: Water
Analysis Batch: 209509

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Magnesium	160	M3	21.0	168	M3	mg/L		18	70 - 130	1	20
Potassium	5.6		20.0	27.9		mg/L		111	70 - 130	3	20

Lab Sample ID: 550-141150-6 MSD
Matrix: Water
Analysis Batch: 209650

Client Sample ID: CH-CCR-M55-0420
Prep Type: Dissolved
Prep Batch: 208528

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	ND		1.00	1.07		mg/L		107	70 - 130	3	20
Boron	0.47		1.00	1.55		mg/L		108	70 - 130	2	20
Calcium	740	M3	21.0	713	M3	mg/L		-145	70 - 130	3	20
Lithium	0.55		1.00	1.69		mg/L		114	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-208471/1-A
Matrix: Water
Analysis Batch: 209392

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208471

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00050		mg/L		04/22/20 06:33	04/30/20 21:20	1
Cobalt	ND		0.00050		mg/L		04/22/20 06:33	04/30/20 21:20	1

Lab Sample ID: LCS 550-208471/2-A
Matrix: Water
Analysis Batch: 209392

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208471

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.101		mg/L		101	85 - 115
Cobalt	0.100	0.105		mg/L		105	85 - 115

Lab Sample ID: LCSD 550-208471/3-A
Matrix: Water
Analysis Batch: 209392

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208471

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.103		mg/L		103	85 - 115	2	20
Cobalt	0.100	0.105		mg/L		105	85 - 115	0	20

Lab Sample ID: MB 550-208488/1-A
Matrix: Water
Analysis Batch: 208774

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:42	1
Barium	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:42	1
Cadmium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 22:42	1
Chromium	ND		0.0010		mg/L		04/22/20 06:44	04/23/20 22:42	1
Cobalt	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:42	1
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/23/20 22:42	1
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/23/20 22:42	1

Lab Sample ID: MB 550-208488/1-A
Matrix: Water
Analysis Batch: 209393

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 208488

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.00050		mg/L		04/22/20 06:44	04/30/20 22:12	1
Barium	ND		0.00050		mg/L		04/22/20 06:44	04/30/20 22:12	1
Cadmium	ND		0.00010		mg/L		04/22/20 06:44	04/30/20 22:12	1
Chromium	ND		0.0010		mg/L		04/22/20 06:44	04/30/20 22:12	1
Cobalt	ND		0.00050		mg/L		04/22/20 06:44	04/30/20 22:12	1
Lead	ND		0.00050		mg/L		04/22/20 06:44	04/30/20 22:12	1
Selenium	ND		0.00050		mg/L		04/22/20 06:44	04/30/20 22:12	1
Thallium	ND		0.00010		mg/L		04/22/20 06:44	04/30/20 22:12	1

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 550-208488/2-A
Matrix: Water
Analysis Batch: 208774

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0928		mg/L		93	85 - 115
Barium	0.100	0.106		mg/L		106	85 - 115
Cadmium	0.100	0.0942		mg/L		94	85 - 115
Chromium	0.100	0.0880		mg/L		88	85 - 115
Cobalt	0.100	0.0888		mg/L		89	85 - 115
Lead	0.100	0.0970		mg/L		97	85 - 115
Thallium	0.100	0.0986		mg/L		99	85 - 115

Lab Sample ID: LCS 550-208488/2-A
Matrix: Water
Analysis Batch: 209393

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0958		mg/L		96	85 - 115
Barium	0.100	0.107		mg/L		107	85 - 115
Cadmium	0.100	0.0986		mg/L		99	85 - 115
Chromium	0.100	0.102		mg/L		102	85 - 115
Cobalt	0.100	0.0988		mg/L		99	85 - 115
Lead	0.100	0.0980		mg/L		98	85 - 115
Selenium	0.100	0.0959		mg/L		96	85 - 115
Thallium	0.100	0.0968		mg/L		97	85 - 115

Lab Sample ID: LCSD 550-208488/3-A
Matrix: Water
Analysis Batch: 208774

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.0992		mg/L		99	85 - 115	7	20
Barium	0.100	0.111		mg/L		111	85 - 115	5	20
Cadmium	0.100	0.100		mg/L		100	85 - 115	6	20
Chromium	0.100	0.0970		mg/L		97	85 - 115	10	20
Cobalt	0.100	0.0977		mg/L		98	85 - 115	9	20
Lead	0.100	0.101		mg/L		101	85 - 115	4	20
Thallium	0.100	0.103		mg/L		103	85 - 115	4	20

Lab Sample ID: LCSD 550-208488/3-A
Matrix: Water
Analysis Batch: 209393

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.104		mg/L		104	85 - 115	8	20
Barium	0.100	0.114		mg/L		114	85 - 115	6	20
Cadmium	0.100	0.102		mg/L		102	85 - 115	3	20
Chromium	0.100	0.108		mg/L		108	85 - 115	5	20
Cobalt	0.100	0.106		mg/L		106	85 - 115	7	20
Lead	0.100	0.102		mg/L		102	85 - 115	4	20
Selenium	0.100	0.105		mg/L		105	85 - 115	9	20
Thallium	0.100	0.100		mg/L		100	85 - 115	3	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-141150-1 MS
Matrix: Water
Analysis Batch: 208774

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lead	ND		0.100	0.0963		mg/L		96	70 - 130
Thallium	0.00010		0.100	0.0984		mg/L		98	70 - 130

Lab Sample ID: 550-141150-1 MS
Matrix: Water
Analysis Batch: 209393

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Barium	0.014	D1	0.100	0.126		mg/L		112	70 - 130
Chromium	0.018	D1	0.100	0.125		mg/L		106	70 - 130
Cobalt	0.039	D1	0.100	0.142		mg/L		103	70 - 130
Selenium	ND	D1	0.100	0.112		mg/L		108	70 - 130

Lab Sample ID: 550-141150-1 MS
Matrix: Water
Analysis Batch: 209501

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	D1	0.100	0.103		mg/L		103	70 - 130
Cadmium	ND	D1	0.100	0.0950		mg/L		95	70 - 130
Molybdenum	0.024	B1 D1	0.100	0.129		mg/L		105	70 - 130

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 208774

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lead	ND		0.100	0.0952		mg/L		95	70 - 130	1	20
Thallium	0.00010		0.100	0.0960		mg/L		96	70 - 130	3	20

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 209393

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Barium	0.014	D1	0.100	0.126		mg/L		112	70 - 130	0	20
Chromium	0.018	D1	0.100	0.123		mg/L		104	70 - 130	2	20
Cobalt	0.039	D1	0.100	0.140		mg/L		101	70 - 130	2	20
Selenium	ND	D1	0.100	0.106		mg/L		102	70 - 130	6	20

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 209501

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA
Prep Batch: 208488

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND	D1	0.100	0.0995		mg/L		100	70 - 130	3	20
Cadmium	ND	D1	0.100	0.0939		mg/L		93	70 - 130	1	20
Molybdenum	0.024	B1 D1	0.100	0.125		mg/L		101	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 550-209433/1-A
Matrix: Water
Analysis Batch: 209504
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 209433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Molybdenum	ND		0.00050		mg/L		05/04/20 05:28	05/04/20 18:36	1

Lab Sample ID: LCS 550-209433/2-A
Matrix: Water
Analysis Batch: 209504
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 209433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.100	0.0947		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-209433/3-A
Matrix: Water
Analysis Batch: 209504
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 209433

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.100	0.0941		mg/L		94	85 - 115	1	20

Lab Sample ID: 550-141150-5 MS
Matrix: Water
Analysis Batch: 209504
Client Sample ID: CH-CCR-M55-0420
Prep Type: Total/NA
Prep Batch: 209433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Molybdenum	0.0048	D1	0.100	0.104		mg/L		99	70 - 130

Lab Sample ID: 550-141150-5 MSD
Matrix: Water
Analysis Batch: 209504
Client Sample ID: CH-CCR-M55-0420
Prep Type: Total/NA
Prep Batch: 209433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Molybdenum	0.0048	D1	0.100	0.108		mg/L		103	70 - 130	4	20

Lab Sample ID: 550-141150-2 MS
Matrix: Water
Analysis Batch: 209392
Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved
Prep Batch: 208471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Cobalt	0.039	D1	0.100	0.147		mg/L		108	70 - 130

Lab Sample ID: 550-141150-2 MS
Matrix: Water
Analysis Batch: 209486
Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved
Prep Batch: 208471

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	ND	D1	0.100	0.118		mg/L		118	70 - 130

Lab Sample ID: 550-141150-2 MSD
Matrix: Water
Analysis Batch: 209392
Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved
Prep Batch: 208471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Cobalt	0.039	D1	0.100	0.144		mg/L		106	70 - 130	3	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-141150-2 MSD
Matrix: Water
Analysis Batch: 209486

Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved
Prep Batch: 208471

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	ND	D1	0.100	0.114		mg/L		114	70 - 130	3	20

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 550-208656/6
Matrix: Water
Analysis Batch: 208656

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:13	1
Bicarbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:13	1
Carbonate Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:13	1
Alkalinity, Phenolphthalein	ND		6.0		mg/L			04/23/20 09:13	1
Hydroxide Alkalinity as CaCO3	ND		6.0		mg/L			04/23/20 09:13	1

Lab Sample ID: LCS 550-208656/5
Matrix: Water
Analysis Batch: 208656

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Alkalinity as CaCO3	250	234		mg/L		94	90 - 110

Lab Sample ID: LCSD 550-208656/19
Matrix: Water
Analysis Batch: 208656

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Alkalinity as CaCO3	250	234		mg/L		93	90 - 110	0	20

Lab Sample ID: 550-141140-F-1 DU
Matrix: Water
Analysis Batch: 208656

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		137		mg/L		2	20
Bicarbonate Alkalinity as CaCO3	140		137		mg/L		2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Lab Sample ID: 550-141150-1 DU
Matrix: Water
Analysis Batch: 208656

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	210	R8	281	R8	mg/L		28	20
Bicarbonate Alkalinity as CaCO3	210	R8	281	R8	mg/L		28	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2320B - Alkalinity

Lab Sample ID: 550-141150-17 DU
Matrix: Water
Analysis Batch: 208656

Client Sample ID: CH-CCR-W304-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity as CaCO3	140		138		mg/L		0.2	20
Bicarbonate Alkalinity as CaCO3	140		138		mg/L		0.2	20
Carbonate Alkalinity as CaCO3	ND		ND		mg/L		NC	20
Alkalinity, Phenolphthalein	ND		ND		mg/L		NC	20
Hydroxide Alkalinity as CaCO3	ND		ND		mg/L		NC	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-208634/1
Matrix: Water
Analysis Batch: 208634

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			04/23/20 09:33	1

Lab Sample ID: LCS 550-208634/2
Matrix: Water
Analysis Batch: 208634

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	976		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-208634/3
Matrix: Water
Analysis Batch: 208634

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	952		mg/L		95	90 - 110	2	10

Lab Sample ID: 550-141150-1 DU
Matrix: Water
Analysis Batch: 208634

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	11000	D2	10600	D2	mg/L		0.2	10

Lab Sample ID: MB 550-208747/1
Matrix: Water
Analysis Batch: 208747

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		20		mg/L			04/24/20 09:09	1

Lab Sample ID: LCS 550-208747/2
Matrix: Water
Analysis Batch: 208747

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	956		mg/L		96	90 - 110

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: LCSD 550-208747/3
Matrix: Water
Analysis Batch: 208747

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids			1000	960		mg/L		96	90 - 110	0	10

Lab Sample ID: 550-141150-3 DU
Matrix: Water
Analysis Batch: 208747

Client Sample ID: CH-CCR-M53-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Total Dissolved Solids	8200	D2		7970	D2	mg/L				2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-208783/1
Matrix: Water
Analysis Batch: 208783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.3	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-208783/13
Matrix: Water
Analysis Batch: 208783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.1	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-208783/25
Matrix: Water
Analysis Batch: 208783

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	6.9		SU		99.0	98.5 - 101.5		

Lab Sample ID: 550-140991-A-5 DU
Matrix: Water
Analysis Batch: 208783

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	8.1	H5		8.1	H5	SU				0	5
Temperature	12.5	H5		12.2	H5	Degrees C				2	

Lab Sample ID: 550-141150-9 DU
Matrix: Water
Analysis Batch: 208783

Client Sample ID: CH-CCR-M70-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0	5
Temperature	13.9	H5		13.2	H5	Degrees C				5	

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-208901/1
Matrix: Water
Analysis Batch: 208901

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.0	98.5 - 101.5

Lab Sample ID: LCSSRM 550-208901/13
Matrix: Water
Analysis Batch: 208901

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.1	98.5 - 101.5

Lab Sample ID: 550-141150-29 DU
Matrix: Water
Analysis Batch: 208901

Client Sample ID: CH-CCR-W314-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.5	H5	7.5	H5	SU		0.1	5
Temperature	8.0	H5	8.6	H5	Degrees C		7	

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 550-208605/28
Matrix: Water
Analysis Batch: 208605

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.50		mg/L			04/22/20 18:46	1

Lab Sample ID: LCS 550-208605/29
Matrix: Water
Analysis Batch: 208605

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	25.0	24.5		mg/L		98	80 - 120

Lab Sample ID: LCSD 550-208605/30
Matrix: Water
Analysis Batch: 208605

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	25.0	23.8		mg/L		95	80 - 120	3	20

Lab Sample ID: 550-141150-1 MS
Matrix: Water
Analysis Batch: 208605

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	ND		25.0	22.3		mg/L		89	80 - 120

Method: SM 4500 NH3 D - Ammonia (Continued)

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 208605

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	ND		25.0	22.0		mg/L		88	80 - 120	1	20

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-208813/31
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50		mg/L			04/23/20 17:56	1
Total Organic Carbon - Duplicates	ND		0.50		mg/L			04/23/20 17:56	1
Total Organic Carbon - Quad	ND		0.50		mg/L			04/23/20 17:56	1

Lab Sample ID: LCS 550-208813/32
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.9		mg/L		104	90 - 110
Total Organic Carbon - Duplicates	20.0	20.9		mg/L		104	90 - 110
Total Organic Carbon - Quad	20.0	20.9		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-208813/33
Matrix: Water
Analysis Batch: 208813

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.8		mg/L		104	90 - 110	0	20
Total Organic Carbon - Duplicates	20.0	20.8		mg/L		104	90 - 110	0	20
Total Organic Carbon - Quad	20.0	20.8		mg/L		104	90 - 110	0	20

Lab Sample ID: 550-141150-1 MS
Matrix: Water
Analysis Batch: 208813

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.5		20.0	20.5		mg/L		95	90 - 110
Total Organic Carbon - Duplicates	1.5		20.0	20.5		mg/L		95	90 - 110
Total Organic Carbon - Quad	1.5		20.0	20.5		mg/L		95	90 - 110

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 208813

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.5		20.0	20.4		mg/L		95	90 - 110	0	20
Total Organic Carbon - Duplicates	1.5		20.0	20.4		mg/L		95	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-141150-1 MSD
Matrix: Water
Analysis Batch: 208813

Client Sample ID: CH-CCR-M52-0420
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Quad	1.5		20.0	20.4		mg/L		95	90 - 110	0	20

Lab Sample ID: MB 550-208964/16
Matrix: Water
Analysis Batch: 208964

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50		mg/L			04/27/20 19:04	1
Total Organic Carbon - Duplicates	ND		0.50		mg/L			04/27/20 19:04	1
Total Organic Carbon - Quad	ND		0.50		mg/L			04/27/20 19:04	1

Lab Sample ID: LCS 550-208964/17
Matrix: Water
Analysis Batch: 208964

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.5		mg/L		102	90 - 110
Total Organic Carbon - Duplicates	20.0	20.5		mg/L		102	90 - 110
Total Organic Carbon - Quad	20.0	20.5		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-208964/18
Matrix: Water
Analysis Batch: 208964

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.1		mg/L		101	90 - 110	2	20
Total Organic Carbon - Duplicates	20.0	20.1		mg/L		101	90 - 110	2	20
Total Organic Carbon - Quad	20.0	20.1		mg/L		101	90 - 110	2	20

Lab Sample ID: 550-141210-A-1 MS ^10
Matrix: Water
Analysis Batch: 208964

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	45	D1	200	252	D1	mg/L		102	90 - 110
Total Organic Carbon - Duplicates	45	D1	200	252	D1	mg/L		102	90 - 110
Total Organic Carbon - Quad	45	D1	200	252	D1	mg/L		102	90 - 110

Lab Sample ID: 550-141210-A-1 MSD ^10
Matrix: Water
Analysis Batch: 208964

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	45	D1	200	251	D1	mg/L		103	90 - 110	0	20
Total Organic Carbon - Duplicates	45	D1	200	251	D1	mg/L		103	90 - 110	0	20
Total Organic Carbon - Quad	45	D1	200	251	D1	mg/L		103	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 550-209233/5
Matrix: Water
Analysis Batch: 209233

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND		0.50		mg/L			04/29/20 14:15	1
Total Organic Carbon - Duplicates	ND		0.50		mg/L			04/29/20 14:15	1
Total Organic Carbon - Quad	ND		0.50		mg/L			04/29/20 14:15	1

Lab Sample ID: LCS 550-209233/6
Matrix: Water
Analysis Batch: 209233

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.4		mg/L		102	90 - 110
Total Organic Carbon - Duplicates	20.0	20.4		mg/L		102	90 - 110
Total Organic Carbon - Quad	20.0	20.4		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-209233/7
Matrix: Water
Analysis Batch: 209233

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.1		mg/L		100	90 - 110	2	20
Total Organic Carbon - Duplicates	20.0	20.1		mg/L		100	90 - 110	2	20
Total Organic Carbon - Quad	20.0	20.1		mg/L		100	90 - 110	2	20

Lab Sample ID: 550-141365-A-1 MS ^10
Matrix: Water
Analysis Batch: 209233

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	45	M2 D1	200	43.6	D1 M2	mg/L		-0.5	90 - 110
Total Organic Carbon - Duplicates	45	M2 D1	200	43.6	D1 M2	mg/L		-0.5	90 - 110
Total Organic Carbon - Quad	45	M2 D1	200	43.6	D1 M2	mg/L		-0.5	90 - 110

Lab Sample ID: 550-141365-A-1 MSD ^10
Matrix: Water
Analysis Batch: 209233

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	45	M2 D1	200	41.1	D1 M2	mg/L		-2	90 - 110	6	20
Total Organic Carbon - Duplicates	45	M2 D1	200	41.1	D1 M2	mg/L		-2	90 - 110	6	20
Total Organic Carbon - Quad	45	M2 D1	200	41.1	D1 M2	mg/L		-2	90 - 110	6	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-208629/1-A
Matrix: Water
Analysis Batch: 208812

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50		mg/L			04/23/20 12:24	1
Dissolved Organic Carbon - Duplicate	ND		0.50		mg/L			04/23/20 12:24	1
Dissolved Organic Carbon - Quad	ND		0.50		mg/L			04/23/20 12:24	1

Lab Sample ID: LCS 550-208812/6
Matrix: Water
Analysis Batch: 208812

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.7		mg/L		104	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	20.7		mg/L		104	90 - 110
Dissolved Organic Carbon - Quad	20.0	20.7		mg/L		104	90 - 110

Lab Sample ID: LCSD 550-208812/7
Matrix: Water
Analysis Batch: 208812

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	20.4		mg/L		102	90 - 110	2	20
Dissolved Organic Carbon - Duplicate	20.0	20.4		mg/L		102	90 - 110	2	20
Dissolved Organic Carbon - Quad	20.0	20.4		mg/L		102	90 - 110	2	20

Lab Sample ID: 550-141150-2 MS
Matrix: Water
Analysis Batch: 208812

Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.4	M2	40.0	21.0	M2	mg/L		49	90 - 110
Dissolved Organic Carbon - Duplicate	1.4	M2	40.0	21.0	M2	mg/L		49	90 - 110
Dissolved Organic Carbon - Quad	1.4	M2	40.0	21.0	M2	mg/L		49	90 - 110

Lab Sample ID: 550-141150-2 MSD
Matrix: Water
Analysis Batch: 208812

Client Sample ID: CH-CCR-M52-0420
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.4	M2	40.0	21.2	M2	mg/L		49	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	1.4	M2	40.0	21.2	M2	mg/L		50	90 - 110	1	20
Dissolved Organic Carbon - Quad	1.4	M2	40.0	21.2	M2	mg/L		49	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: MB 550-208900/1-A
Matrix: Water
Analysis Batch: 208963

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND		0.50		mg/L			04/27/20 17:16	1
Dissolved Organic Carbon - Duplicate	ND		0.50		mg/L			04/27/20 17:16	1
Dissolved Organic Carbon - Quad	ND		0.50		mg/L			04/27/20 17:16	1

Lab Sample ID: LCS 550-208963/6
Matrix: Water
Analysis Batch: 208963

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	20.2		mg/L		101	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	20.2		mg/L		101	90 - 110
Dissolved Organic Carbon - Quad	20.0	20.2		mg/L		101	90 - 110

Lab Sample ID: LCSD 550-208963/7
Matrix: Water
Analysis Batch: 208963

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	20.0		mg/L		100	90 - 110	1	20
Dissolved Organic Carbon - Duplicate	20.0	20.0		mg/L		100	90 - 110	1	20
Dissolved Organic Carbon - Quad	20.0	20.0		mg/L		100	90 - 110	1	20

Lab Sample ID: 550-141150-4 MS
Matrix: Water
Analysis Batch: 208963

Client Sample ID: CH-CCR-M53-0420
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.2		20.0	22.1		mg/L		104	90 - 110
Dissolved Organic Carbon - Duplicate	1.2		20.0	22.1		mg/L		104	90 - 110
Dissolved Organic Carbon - Quad	1.2		20.0	22.1		mg/L		104	90 - 110

Lab Sample ID: 550-141150-4 MSD
Matrix: Water
Analysis Batch: 208963

Client Sample ID: CH-CCR-M53-0420
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.2		20.0	21.4		mg/L		101	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	1.2		20.0	21.4		mg/L		101	90 - 110	3	20
Dissolved Organic Carbon - Quad	1.2		20.0	21.4		mg/L		101	90 - 110	3	20

HPLC/IC

Analysis Batch: 208652

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	300.0	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	300.0	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	300.0	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	300.0	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	300.0	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	300.0	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	300.0	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	300.0	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	300.0	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	300.0	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	300.0	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	300.0	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	300.0	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	300.0	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	300.0	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	300.0	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	300.0	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	300.0	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	300.0	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	300.0	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	300.0	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	300.0	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	300.0	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	300.0	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	300.0	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	300.0	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	300.0	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	300.0	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	300.0	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	300.0	
MB 550-208652/2	Method Blank	Total/NA	Water	300.0	
LCS 550-208652/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-208652/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	300.0	

Analysis Batch: 208874

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	300.0	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	300.0	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	300.0	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	300.0	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	300.0	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	300.0	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	300.0	
MB 550-208874/2	Method Blank	Total/NA	Water	300.0	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

HPLC/IC (Continued)

Analysis Batch: 208874 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 550-208874/7	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-208874/8	Lab Control Sample Dup	Total/NA	Water	300.0	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	300.0	
550-141309-B-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-141309-B-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 209010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	300.0	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	300.0	
MB 550-209010/2	Method Blank	Total/NA	Water	300.0	
LCS 550-209010/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-209010/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-141388-A-1 MS	Matrix Spike	Total/NA	Water	300.0	
550-141388-A-1 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 209011

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	300.0	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	300.0	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	300.0	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	300.0	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	300.0	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	300.0	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	300.0	
MB 550-209011/2	Method Blank	Total/NA	Water	300.0	
LCS 550-209011/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-209011/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-141420-A-4 MS	Matrix Spike	Total/NA	Water	300.0	
550-141420-A-4 MSD	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 209282

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	300.0	
MB 550-209282/2	Method Blank	Total/NA	Water	300.0	
LCS 550-209282/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-209282/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-141235-B-3 MS ^5	Matrix Spike	Total/NA	Water	300.0	
550-141235-B-3 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 208471

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	200.8	
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	200.8	
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	200.8	
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	200.8	
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	200.8	
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 208471 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	200.8	
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	200.8	
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	200.8	
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.8	
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.8	
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.8	
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.8	
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	200.8	
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.8	
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.8	
MB 550-208471/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-208471/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-208471/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-141150-2 MS	CH-CCR-M52-0420	Dissolved	Water	200.8	
550-141150-2 MSD	CH-CCR-M52-0420	Dissolved	Water	200.8	

Prep Batch: 208488

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.8	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.8	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.8	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.8	
MB 550-208488/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-208488/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-208488/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	200.8	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	200.8	

Prep Batch: 208528

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	200.7	
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	200.7	
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	200.7	
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	200.7	
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	200.7	
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	200.7	
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	200.7	
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	200.7	

Metals (Continued)

Prep Batch: 208528 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	200.7	
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.7	
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.7	
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.7	
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.7	
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	200.7	
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.7	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.7	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.7	
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.7	
MB 550-208528/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-208528/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-208528/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7	
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7	

Prep Batch: 208529

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.7	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.7	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.7	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.7	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.7	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.7	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.7	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.7	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.7	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.7	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.7	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.7	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.7	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.7	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.7	
MB 550-208529/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-208529/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-208529/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-141149-B-3-B MS	Matrix Spike	Total/NA	Water	200.7	
550-141149-B-3-B MS ^10	Matrix Spike	Total/NA	Water	200.7	
550-141149-B-3-B MS ^5	Matrix Spike	Total/NA	Water	200.7	
550-141149-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-141149-B-3-C MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.7	
550-141149-B-3-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	200.7	

Analysis Batch: 208774

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8 LL	208488
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	208488
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8 LL	208488
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8 LL	208488
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8 LL	208488

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Metals (Continued)

Analysis Batch: 208774 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8 LL	208488
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8 LL	208488
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8 LL	208488
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8 LL	208488
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8 LL	208488
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8 LL	208488
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8 LL	208488
MB 550-208488/1-A	Method Blank	Total/NA	Water	200.8 LL	208488
LCS 550-208488/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	208488
LCSD 550-208488/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	208488
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488

Analysis Batch: 208945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	200.7 Rev 4.4	208528
MB 550-208528/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208528
LCS 550-208528/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208528
LCSD 550-208528/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528

Analysis Batch: 209071

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.7 Rev 4.4	208529
MB 550-208529/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208529
LCS 550-208529/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208529
LCSD 550-208529/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	208529

Metals (Continued)

Analysis Batch: 209071 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141149-B-3-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	208529

Analysis Batch: 209335

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.7 Rev 4.4	208528
MB 550-208528/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208528
LCS 550-208528/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208528
LCSD 550-208528/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528

Analysis Batch: 209337

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-B MS ^10	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-C MSD ^10	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	208529

Analysis Batch: 209342

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.7 Rev 4.4	208528

Metals (Continued)

Analysis Batch: 209342 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.7 Rev 4.4	208528

Analysis Batch: 209392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	200.8 LL	208471
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	200.8 LL	208471
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	200.8 LL	208471
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	200.8 LL	208471
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	200.8 LL	208471
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	200.8 LL	208471
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	200.8 LL	208471
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.8 LL	208471
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.8 LL	208471
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.8 LL	208471
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.8 LL	208471
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.8 LL	208471
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.8 LL	208471
MB 550-208471/1-A	Method Blank	Total/NA	Water	200.8 LL	208471
LCS 550-208471/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	208471
LCSD 550-208471/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	208471
550-141150-2 MS	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471
550-141150-2 MSD	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471

Analysis Batch: 209393

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8 LL	208488
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	208488
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8 LL	208488
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8 LL	208488
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8 LL	208488
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8 LL	208488
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8 LL	208488
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8 LL	208488
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8 LL	208488
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8 LL	208488
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.8 LL	208488
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8 LL	208488
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.8 LL	208488
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.8 LL	208488
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8 LL	208488
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.8 LL	208488
MB 550-208488/1-A	Method Blank	Total/NA	Water	200.8 LL	208488
LCS 550-208488/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	208488
LCSD 550-208488/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	208488
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Metals

Prep Batch: 209433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.8	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.8	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.8	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.8	
MB 550-209433/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-209433/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-209433/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-141150-5 MS	CH-CCR-M55-0420	Total/NA	Water	200.8	
550-141150-5 MSD	CH-CCR-M55-0420	Total/NA	Water	200.8	

Analysis Batch: 209486

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	200.8 LL	208471
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	200.8 LL	208471
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	200.8 LL	208471
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	200.8 LL	208471
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	200.8 LL	208471
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	200.8 LL	208471
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	200.8 LL	208471
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	200.8 LL	208471
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	200.8 LL	208471
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	200.8 LL	208471
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	200.8 LL	208471
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	200.8 LL	208471
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	200.8 LL	208471
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	200.8 LL	208471
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	200.8 LL	208471
550-141150-2 MS	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471
550-141150-2 MSD	CH-CCR-M52-0420	Dissolved	Water	200.8 LL	208471

Analysis Batch: 209501

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8 LL	208488
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	208488
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8 LL	208488
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8 LL	208488

Metals (Continued)

Analysis Batch: 209501 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8 LL	208488
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8 LL	208488
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8 LL	208488
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8 LL	208488
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8 LL	208488
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8 LL	208488
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.8 LL	208488
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8 LL	208488
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.8 LL	208488
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.8 LL	208488
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8 LL	208488
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.8 LL	208488
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	208488

Analysis Batch: 209504

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.8 LL	209433
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.8 LL	209433
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	209433
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.8 LL	209433
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.8 LL	209433
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.8 LL	209433
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.8 LL	209433
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.8 LL	209433
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.8 LL	209433
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.8 LL	209433
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.8 LL	209433
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.8 LL	209433
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.8 LL	209433
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.8 LL	209433
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.8 LL	209433
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.8 LL	209433
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.8 LL	209433
MB 550-209433/1-A	Method Blank	Total/NA	Water	200.8 LL	209433
LCS 550-209433/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	209433
LCSD 550-209433/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	209433
550-141150-5 MS	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	209433
550-141150-5 MSD	CH-CCR-M55-0420	Total/NA	Water	200.8 LL	209433

Analysis Batch: 209509

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-208528/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208528
LCS 550-208528/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208528
LCSD 550-208528/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528

Analysis Batch: 209650

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	200.7 Rev 4.4	208528

Metals (Continued)

Analysis Batch: 209650 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	200.7 Rev 4.4	208528
MB 550-208528/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208528
LCS 550-208528/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208528
LCSD 550-208528/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208528
550-141150-6 MS	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528
550-141150-6 MSD	CH-CCR-M55-0420	Dissolved	Water	200.7 Rev 4.4	208528

Analysis Batch: 209651

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.7 Rev 4.4	208529
MB 550-208529/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208529
LCS 550-208529/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208529
LCSD 550-208529/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-B MS ^5	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	208529

Analysis Batch: 209859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	200.7 Rev 4.4	208529
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	200.7 Rev 4.4	208529
MB 550-208529/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	208529
LCS 550-208529/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	208529
LCSD 550-208529/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	208529
550-141149-B-3-B MS ^5	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	208529

Metals (Continued)

Analysis Batch: 209859 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141149-B-3-C MSD ^5	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	208529

General Chemistry

Analysis Batch: 208605

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	SM 4500 NH3 D	
MB 550-208605/28	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 550-208605/29	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	
LCSD 550-208605/30	Lab Control Sample Dup	Total/NA	Water	SM 4500 NH3 D	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	SM 4500 NH3 D	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	SM 4500 NH3 D	

Filtration Batch: 208629

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	Filtration	
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	Filtration	
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	Filtration	
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	Filtration	
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	Filtration	
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	Filtration	
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	Filtration	
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	Filtration	
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	Filtration	
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	Filtration	
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	Filtration	
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	Filtration	
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	Filtration	
MB 550-208629/1-A	Method Blank	Dissolved	Water	Filtration	
550-141150-2 MS	CH-CCR-M52-0420	Dissolved	Water	Filtration	
550-141150-2 MSD	CH-CCR-M52-0420	Dissolved	Water	Filtration	

Analysis Batch: 208634

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	SM 2540C	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	SM 2540C	

General Chemistry (Continued)

Analysis Batch: 208634 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	SM 2540C	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	SM 2540C	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	SM 2540C	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	SM 2540C	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	SM 2540C	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	SM 2540C	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	SM 2540C	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	SM 2540C	
MB 550-208634/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-208634/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-208634/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-141150-1 DU	CH-CCR-M52-0420	Total/NA	Water	SM 2540C	

Analysis Batch: 208656

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	SM 2320B	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	SM 2320B	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	SM 2320B	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	SM 2320B	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	SM 2320B	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	SM 2320B	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	SM 2320B	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	SM 2320B	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	SM 2320B	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	SM 2320B	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	SM 2320B	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	SM 2320B	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	SM 2320B	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	SM 2320B	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	SM 2320B	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	SM 2320B	
MB 550-208656/6	Method Blank	Total/NA	Water	SM 2320B	
LCS 550-208656/5	Lab Control Sample	Total/NA	Water	SM 2320B	
LCSD 550-208656/19	Lab Control Sample Dup	Total/NA	Water	SM 2320B	
550-141140-F-1 DU	Duplicate	Total/NA	Water	SM 2320B	
550-141150-1 DU	CH-CCR-M52-0420	Total/NA	Water	SM 2320B	
550-141150-17 DU	CH-CCR-W304-0420	Total/NA	Water	SM 2320B	

Analysis Batch: 208747

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	SM 2540C	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	SM 2540C	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	SM 2540C	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	SM 2540C	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	SM 2540C	
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	SM 2540C	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	SM 2540C	
MB 550-208747/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-208747/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-208747/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-141150-3 DU	CH-CCR-M53-0420	Total/NA	Water	SM 2540C	

General Chemistry

Analysis Batch: 208783

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-208783/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-208783/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-208783/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-140991-A-5 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	
550-141150-9 DU	CH-CCR-M70-0420	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 208812

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-2	CH-CCR-M52-0420	Dissolved	Water	SM 5310B	208629
550-141150-6	CH-CCR-M55-0420	Dissolved	Water	SM 5310B	208629
550-141150-8	CH-CCR-M69-0420	Dissolved	Water	SM 5310B	208629
550-141150-12	CH-CCR-W301-0420	Dissolved	Water	SM 5310B	208629
550-141150-14	CH-CCR-W302-0420	Dissolved	Water	SM 5310B	208629
550-141150-16	CH-CCR-W303-0420	Dissolved	Water	SM 5310B	208629
550-141150-18	CH-CCR-W304-0420	Dissolved	Water	SM 5310B	208629
550-141150-22	CH-CCR-W305-0420	Dissolved	Water	SM 5310B	208629
550-141150-24	CH-CCR-W306-0420	Dissolved	Water	SM 5310B	208629
550-141150-26	CH-CCR-W307-0420	Dissolved	Water	SM 5310B	208629
550-141150-28	CH-CCR-W308-0420	Dissolved	Water	SM 5310B	208629
550-141150-30	CH-CCR-W314-0420	Dissolved	Water	SM 5310B	208629
550-141150-33	CH-CCR-FD04-0420	Dissolved	Water	SM 5310B	208629
MB 550-208629/1-A	Method Blank	Dissolved	Water	SM 5310B	208629
LCS 550-208812/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-208812/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-141150-2 MS	CH-CCR-M52-0420	Dissolved	Water	SM 5310B	208629
550-141150-2 MSD	CH-CCR-M52-0420	Dissolved	Water	SM 5310B	208629

Analysis Batch: 208813

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-1	CH-CCR-M52-0420	Total/NA	Water	SM 5310B	
550-141150-5	CH-CCR-M55-0420	Total/NA	Water	SM 5310B	
550-141150-9	CH-CCR-M70-0420	Total/NA	Water	SM 5310B	
550-141150-11	CH-CCR-W301-0420	Total/NA	Water	SM 5310B	
550-141150-17	CH-CCR-W304-0420	Total/NA	Water	SM 5310B	
550-141150-21	CH-CCR-W305-0420	Total/NA	Water	SM 5310B	
550-141150-23	CH-CCR-W306-0420	Total/NA	Water	SM 5310B	
550-141150-27	CH-CCR-W308-0420	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 208813 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	SM 5310B	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	SM 5310B	
MB 550-208813/31	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-208813/32	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-208813/33	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-141150-1 MS	CH-CCR-M52-0420	Total/NA	Water	SM 5310B	
550-141150-1 MSD	CH-CCR-M52-0420	Total/NA	Water	SM 5310B	

Filtration Batch: 208900

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	Filtration	
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	Filtration	
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	Filtration	
MB 550-208900/1-A	Method Blank	Dissolved	Water	Filtration	
550-141150-4 MS	CH-CCR-M53-0420	Dissolved	Water	Filtration	
550-141150-4 MSD	CH-CCR-M53-0420	Dissolved	Water	Filtration	

Analysis Batch: 208901

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-29	CH-CCR-W314-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-31	CH-CCR-W317-0420	Total/NA	Water	SM 4500 H+ B	
550-141150-32	CH-CCR-FD04-0420	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-208901/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-208901/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-141150-29 DU	CH-CCR-W314-0420	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 208963

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-4	CH-CCR-M53-0420	Dissolved	Water	SM 5310B	208900
550-141150-10	CH-CCR-M70-0420	Dissolved	Water	SM 5310B	208900
550-141150-20	CH-CCR-FD03-0420	Dissolved	Water	SM 5310B	208900
MB 550-208900/1-A	Method Blank	Dissolved	Water	SM 5310B	208900
LCS 550-208963/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-208963/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-141150-4 MS	CH-CCR-M53-0420	Dissolved	Water	SM 5310B	208900
550-141150-4 MSD	CH-CCR-M53-0420	Dissolved	Water	SM 5310B	208900

Analysis Batch: 208964

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-3	CH-CCR-M53-0420	Total/NA	Water	SM 5310B	
550-141150-7	CH-CCR-M69-0420	Total/NA	Water	SM 5310B	
550-141150-13	CH-CCR-W302-0420	Total/NA	Water	SM 5310B	
550-141150-15	CH-CCR-W303-0420	Total/NA	Water	SM 5310B	
550-141150-19	CH-CCR-FD03-0420	Total/NA	Water	SM 5310B	
MB 550-208964/16	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-208964/17	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-208964/18	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-141210-A-1 MS ^10	Matrix Spike	Total/NA	Water	SM 5310B	
550-141210-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

General Chemistry

Analysis Batch: 209233

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-141150-25	CH-CCR-W307-0420	Total/NA	Water	SM 5310B	
MB 550-209233/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-209233/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-209233/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-141365-A-1 MS ^10	Matrix Spike	Total/NA	Water	SM 5310B	
550-141365-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-0420

Date Collected: 04/19/20 11:52
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-1

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 00:13	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 01:08	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 04:00	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 17:42	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:34	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 13:33	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:35	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 22:52	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:22	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:24	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:51	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 09:39	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 19:09	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 18:40	DGS	TAL PHX

Client Sample ID: CH-CCR-M52-0420

Date Collected: 04/19/20 11:52
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-2

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 22:49	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:30	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:01	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 12:41	DGS	TAL PHX

Client Sample ID: CH-CCR-M53-0420

Lab Sample ID: 550-141150-3

Date Collected: 04/19/20 10:04

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/22/20 22:59	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/22/20 23:17	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 06:45	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 17:46	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:38	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 13:37	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:39	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 22:54	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:24	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:26	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:48	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 09:58	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 19:35	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208964	04/27/20 19:46	DGS	TAL PHX

Client Sample ID: CH-CCR-M53-0420

Lab Sample ID: 550-141150-4

Date Collected: 04/19/20 10:04

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 22:53	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:32	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:03	ARE	TAL PHX
Dissolved	Filtration	Filtration			208900	04/27/20 14:15	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208963	04/27/20 17:27	DGS	TAL PHX

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-5

Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 02:03	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 02:22	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 07:12	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 17:50	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:42	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 13:49	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:43	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 22:57	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:26	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:28	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:46	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:07	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 19:43	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 19:35	DGS	TAL PHX

Client Sample ID: CH-CCR-M55-0420

Lab Sample ID: 550-141150-6

Date Collected: 04/17/20 15:56
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 22:45	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:34	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:05	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 13:36	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M69-0420

Date Collected: 04/19/20 13:12
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-7

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 02:40	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 02:58	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 07:39	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 17:54	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:46	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 13:53	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:47	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 22:59	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:28	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:30	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:53	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:15	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 19:50	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208964	04/27/20 20:00	DGS	TAL PHX

Client Sample ID: CH-CCR-M69-0420

Date Collected: 04/19/20 13:12
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-8

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 22:57	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:36	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:07	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 13:50	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-0420
Date Collected: 04/19/20 14:55
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 03:53	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 04:12	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 08:34	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 17:58	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:50	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 13:57	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:51	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:01	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:31	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:32	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:55	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:24	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 19:59	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 20:00	DGS	TAL PHX

Client Sample ID: CH-CCR-M70-0420
Date Collected: 04/19/20 14:55
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 23:01	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:38	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:09	ARE	TAL PHX
Dissolved	Filtration	Filtration			208900	04/27/20 14:15	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208963	04/27/20 18:07	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-11
Date Collected: 04/18/20 13:37
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 04:30	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 04:49	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 09:02	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:10	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 19:54	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:01	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 17:55	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:03	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:33	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:34	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:57	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:33	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 20:06	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 20:12	DGS	TAL PHX

Client Sample ID: CH-CCR-W301-0420

Lab Sample ID: 550-141150-12
Date Collected: 04/18/20 13:37
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 23:05	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:40	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:11	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 14:24	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-0420

Lab Sample ID: 550-141150-13
Date Collected: 04/17/20 09:45
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 05:07	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 05:26	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 09:29	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:14	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:06	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:05	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:07	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:05	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:35	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:36	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 18:59	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:43	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 20:13	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208964	04/27/20 20:13	DGS	TAL PHX

Client Sample ID: CH-CCR-W302-0420

Lab Sample ID: 550-141150-14
Date Collected: 04/17/20 09:45
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 23:09	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:47	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:17	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 14:38	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company — Job ID: 550-141150-1
Project/Site: CCR Groundwater Monitoring — SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W303-0420 — Lab Sample ID: 550-141150-15

Date Collected: 04/18/20 14:49 — **Matrix: Water**
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 05:44	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 06:02	KJS	TAL PHX
Total/NA	Analysis	300.0		5	208874	04/25/20 10:24	NEL	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:18	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:10	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:09	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:11	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:11	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:41	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:42	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:01	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 10:51	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 20:20	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208964	04/27/20 20:28	DGS	TAL PHX

Client Sample ID: CH-CCR-W303-0420 — Lab Sample ID: 550-141150-16

Date Collected: 04/18/20 14:49 — **Matrix: Water**
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 23:13	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:49	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:19	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 14:52	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-0420
Date Collected: 04/17/20 11:16
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-17
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 06:21	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 06:39	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 03:15	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:22	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:14	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:21	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:15	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:13	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:43	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:44	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:03	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 11:18	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 20:27	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 20:54	DGS	TAL PHX

Client Sample ID: CH-CCR-W304-0420
Date Collected: 04/17/20 11:16
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-18
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	208945	04/27/20 23:17	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:21	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 15:05	DGS	TAL PHX

Client Sample ID: CH-CCR-FD03-0420

Lab Sample ID: 550-141150-19

Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 07:34	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 07:53	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 02:20	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:26	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:18	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:25	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:19	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:15	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:45	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:46	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:09	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 11:35	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 20:37	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208964	04/27/20 20:41	DGS	TAL PHX

Client Sample ID: CH-CCR-FD03-0420

Lab Sample ID: 550-141150-20

Date Collected: 04/19/20 10:04
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:27	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 17:37	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:53	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:23	ARE	TAL PHX
Dissolved	Filtration	Filtration			208900	04/27/20 14:15	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208963	04/27/20 18:22	DGS	TAL PHX

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-0420
Date Collected: 04/18/20 16:24
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-21
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 08:11	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 08:30	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 01:53	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:30	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:22	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:29	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:23	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:17	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:47	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:48	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:11	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 11:44	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:04	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 21:50	DGS	TAL PHX

Client Sample ID: CH-CCR-W305-0420
Date Collected: 04/18/20 16:24
Date Received: 04/21/20 14:51

Lab Sample ID: 550-141150-22
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:31	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 17:41	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:55	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:25	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 16:06	DGS	TAL PHX

Client Sample ID: CH-CCR-W306-0420
Lab Sample ID: 550-141150-23
Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 08:48	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 09:06	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 01:25	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:34	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:26	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:33	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:27	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:49	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:51	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:13	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 11:52	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:11	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 22:03	DGS	TAL PHX

Client Sample ID: CH-CCR-W306-0420
Lab Sample ID: 550-141150-24
Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:35	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 17:45	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:57	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:28	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 16:19	DGS	TAL PHX

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W307-0420

Lab Sample ID: 550-141150-25

Date Collected: 04/17/20 12:27

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 09:25	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 09:43	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 00:31	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:38	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:30	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:37	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:31	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:22	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:51	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:53	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:15	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 12:01	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:18	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	209233	04/29/20 14:55	DGS	TAL PHX

Client Sample ID: CH-CCR-W307-0420

Lab Sample ID: 550-141150-26

Date Collected: 04/17/20 12:27

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:39	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 17:49	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 21:59	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:30	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 16:31	DGS	TAL PHX

Client Sample ID: CH-CCR-W308-0420

Lab Sample ID: 550-141150-27

Date Collected: 04/17/20 14:18

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 10:02	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 10:20	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/29/20 00:03	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:42	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:34	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:41	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:35	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:53	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:55	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:17	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 12:10	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208783	04/24/20 15:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:25	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 22:30	DGS	TAL PHX

Client Sample ID: CH-CCR-W308-0420

Lab Sample ID: 550-141150-28

Date Collected: 04/17/20 14:18

Matrix: Water

Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:43	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 17:53	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:32	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 16:44	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-29

Date Collected: 04/19/20 16:09
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 11:15	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 11:34	KJS	TAL PHX
Total/NA	Analysis	300.0		5	209011	04/28/20 23:36	RDC	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209071	04/28/20 18:46	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209337	04/30/20 20:38	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209651	05/05/20 14:45	SRA	TAL PHX
Total/NA	Prep	200.7			208529	04/22/20 13:37	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		5	209859	05/07/20 18:39	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:56	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:57	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:20	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 12:18	DGS	TAL PHX
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
					(Start)	04/24/20 09:09		
					(End)	04/27/20 11:55		
Total/NA	Analysis	SM 4500 H+ B		1	208901	04/27/20 13:46	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:32	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 22:46	DGS	TAL PHX

Client Sample ID: CH-CCR-W314-0420

Lab Sample ID: 550-141150-30

Date Collected: 04/19/20 16:09
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:47	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 18:05	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 22:03	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:34	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 16:58	DGS	TAL PHX

Client Sample ID: CH-CCR-W317-0420
Lab Sample ID: 550-141150-31
Date Collected: 04/16/20 16:48
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	208652	04/23/20 11:52	KJS	TAL PHX
Total/NA	Analysis	300.0		200	208652	04/23/20 12:10	KJS	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:59	SRA	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209335	04/30/20 18:17	SRA	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209650	05/05/20 12:29	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		1	208774	04/23/20 23:28	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 22:58	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 17:59	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:22	ARE	TAL PHX
Total/NA	Analysis	SM 2540C		1	208634		YET	TAL PHX
					(Start)	04/23/20 09:33		
					(End)	04/24/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	208901	04/27/20 13:46	MRR	TAL PHX

Client Sample ID: CH-CCR-FD04-0420
Lab Sample ID: 550-141150-32
Date Collected: 04/19/20 08:12
Matrix: Water
Date Received: 04/21/20 14:51

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		5	209282	04/30/20 21:14	NEL	TAL PHX
Total/NA	Analysis	300.0		2	209010	04/29/20 01:35	RDC	TAL PHX
Total/NA	Analysis	300.0		200	209010	04/29/20 02:03	RDC	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209342	04/29/20 04:03	SRA	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		10	209335	04/30/20 16:59	SRA	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209335	04/30/20 18:21	SRA	TAL PHX
Total/NA	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	209650	05/05/20 12:33	SRA	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		10	209393	04/30/20 23:00	ARE	TAL PHX
Total/NA	Prep	200.8			208488	04/22/20 06:44	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209501	05/04/20 18:01	ARE	TAL PHX
Total/NA	Prep	200.8			209433	05/04/20 05:28	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		5	209504	05/04/20 19:24	ARE	TAL PHX
Total/NA	Analysis	SM 2320B		1	208656	04/23/20 12:26	DGS	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-32

Date Collected: 04/19/20 08:12
Date Received: 04/21/20 14:51

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	208747		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	208901	04/27/20 13:46	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	208605	04/22/20 21:38	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	208813	04/23/20 23:02	DGS	TAL PHX

Client Sample ID: CH-CCR-FD04-0420

Lab Sample ID: 550-141150-33

Date Collected: 04/19/20 08:12
Date Received: 04/21/20 14:51

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209342	04/29/20 03:51	SRA	TAL PHX
Dissolved	Prep	200.7			208528	04/22/20 13:34	MGM	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	209335	04/30/20 18:09	SRA	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		10	209392	04/30/20 22:05	ARE	TAL PHX
Dissolved	Prep	200.8			208471	04/22/20 06:33	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		5	209486	05/01/20 20:36	ARE	TAL PHX
Dissolved	Filtration	Filtration			208629	04/23/20 09:20	DGS	TAL PHX
Dissolved	Analysis	SM 5310B		1	208812	04/23/20 17:13	DGS	TAL PHX

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-141150-1
SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-20

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 2320B		Water	Alkalinity, Phenolphthalein
SM 2540C		Water	Total Dissolved Solids
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Method Summary

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
SM 2320B	Alkalinity	SM	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 4500 NH3 D	Ammonia	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
Filtration	Sample Filtration	None	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

None = None

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

141150

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	**Natalie Chrisman**	**Jim Edwards / (928) 288-1241**	**Date:** 04/21/20	COC No:
Arizona Public Service	**(602) 250-3608**	**Lab Contact: Ken Baker**	**Carrier:**	1 of 2 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC, DOC)	SM 4500D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	Sample Specific Notes:
CH-CCR-M52-0420	4/19/20	11:52	G	W		*		X	X	X	X	X	X	X	X	X	X	X	Low Flow 1+2
CH-CCR-M53-0420	4/19/20	10:04	G	W		*		X	X	X	X	X	X	X	X	X	X	X	3+4
CH-CCR-M55-0420	4/17/20	15:56	G	W		*		X	X	X	X	X	X	X	X	X	X	X	5+6
CH-CCR-M69-0420	4/19/20	13:12	G	W		*		X	X	X	X	X	X	X	X	X	X	X	7+8
CH-CCR-M70-0420	4/19/20	14:35	G	W		*		X	X	X	X	X	X	X	X	X	X	X	9+10
CH-CCR-W301-0420	4/18/20	13:57	G	W		*		X	X	X	X	X	X	X	X	X	X	X	11+12
CH-CCR-W302-0420	4/17/20	09:45	G	W		*		X	X	X	X	X	X	X	X	X	X	X	13+14
CH-CCR-W303-0420	4/18/20	14:49	G	W		*		X	X	X	X	X	X	X	X	X	X	X	15+16
CH-CCR-W304-0420	4/17/20	11:16	G	W		*		X	X	X	X	X	X	X	X	X	X	X	17+18
CH-CCR-FD03-0420	4/19/20	10:04	G	W		*		X	X	X	X	X	X	X	X	X	X	X	19+20
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other								1	4	4	4	4	1	1	2	3	3	1	

550-141150 Chain of Custody

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if sam
☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months C/O

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered*

3.7°C, 3.2°C, 4.8°C, 1.7°C, 2.0°C

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______ Therm ID No.: ______		
Relinquished by: Isaac Torres	Company: Wood	Date/Time: 04/21/20 14:51	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TAPHX	Date/Time: 4-21-20 1451

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

141150

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: **CCR**

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date: 04/21/20	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	2 of 2 COCs
4801 Cholla Lake Rd	**Analysis Turnaround Time**			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			**For Lab Use Only:**
(928) 587-0319 Phone	TAT if different from Below ____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
PO #	☐ 1 day			

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn, K, Mg, Na)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC, DOC)	SM 4500D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	SM 2320B (CO3 Alkalinity as CaCO3, HCO3 Alkalinity as CaCO3)	EPA 200.7 - Totals (B, Ca, Be, Li)	Sample Specific Notes:
CH-CCR-W305-0420	4/18/20	16:24	G	W		*		X	X	X	X	X	X	X	X	X	X	X		Low Flow 21+22
CH-CCR-W306-0420	4/19/20	08:12	G	W		*		X	X	X	X	X	X	X	X	X	X	X		23+24
CH-CCR-W307-0420	4/17/20	12:27	G	W		*		X	X	X	X	X	X	X	X	X	X	X		25+26
CH-CCR-W308-0420	4/17/20	14:18	G	W		*		X	X	X	X	X	X	X	X	X	X	X		27+28
~~CH-CCR-W309-0420~~			~~G~~	~~W~~		~~*~~		~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
CH-CCR-W314-0420	4/19/20	16:09	G	W		*		X	X	X	X	X	X	X	X	X	X	X		29+30
CH-CCR-W317-0420	4/16/20	16:48	G	W		N		X			X		X	X					X	31
CH-CCR-FD04-0420	4/19/20	08:12	G	W		*		X	X	X	X	X	X	X	X	X	X	X		32+33
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____								1	4	4	4	4	1	1	2	3	3	1	4	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ____ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

Custody Seals Intact: ☐ Yes ☐ No | Custody Seal No.: | Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____

Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Isaac Torres	Wood	04/21/20 14:51			
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA PHX	Date/Time: 4.21.20 1451

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-141150-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 141150
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd
Suite 189
Phoenix, AZ 85040
Tel: (602)437-3340

Laboratory Job ID: 550-151758-1
Laboratory SDG: APS Cholla Power Plant (BAP)
Client Project/Site: CCR Groundwater Monitoring
Revision: 1

For:
Arizona Public Service Company
PO BOX 188, Ste. 4458
Joseph City, Arizona 86032

Attn: Natalie Chrisman

Ken Baker

Authorized for release by:
1/4/2021 4:33:02 PM

Ken Baker, Project Manager II
(602)659-7624
Ken.Baker@Eurofinset.com

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Table of Contents

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Qualifiers

HPLC/IC

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
D5	Minimum Reporting Limit (MRL) adjusted due to sample dilution; analyte was non-detect in the sample.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M1	Matrix spike recovery was high, the associated blank spike recovery was acceptable.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Metals

Qualifier	Qualifier Description
B3	Target analyte detected in calibration blank at or above the method reporting limit.
D1	Sample required dilution due to matrix.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.
M3	The spike recovery value is unusable since the analyte concentration in the sample is disproportionate to the spike level. The associated blank spike was acceptable.

General Chemistry

Qualifier	Qualifier Description
D1	Sample required dilution due to matrix.
D2	Sample required dilution due to high concentration of analyte.
E4	Concentration estimated. Analyte was detected below laboratory minimum reporting level (MRL) but above MDL.
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H5	This test is specified to be performed in the field within 15 minutes of sampling; sample was received and analyzed past the regulatory holding time.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present

Glossary (Continued)

Abbreviation	These commonly used abbreviations may or may not be present in this report.
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 550-151758-1

Laboratory: Eurofins TestAmerica, Phoenix

Narrative

Job Narrative
550-151758-1

Comments
Results reported to the MDL.

Receipt
The samples were received on 10/26/2020 2:25 PM; the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 1.3º C, 2.0º C and 3.5º C.

Receipt Exceptions
CH-CCR-M52-1020 (550-151758-1), CH-CCR-M53-1020 (550-151758-3), CH-CCR-M55-1020 (550-151758-5), CH-CCR-M69-1020 (550-151758-7), CH-CCR-M70-1020 (550-151758-9), CH-CCR-W301-1020 (550-151758-11), CH-CCR-W302-1020 (550-151758-13), CH-CCR-W303-1020 (550-151758-15), CH-CCR-W304-1020 (550-151758-17), CH-CCR-FD03-1020 (550-151758-19), CH-CCR-W305-1020 (550-151758-21), CH-CCR-W306-1020 (550-151758-23), CH-CCR-W307-1020 (550-151758-25), CH-CCR-W308-1020 (550-151758-27), CH-CCR-W309-1020 (550-151758-29), CH-CCR-W314-1020 (550-151758-31) and CH-CCR-FD04-1020 (550-151758-34)

Containers received with about 75mL in containers.

CH-CCR-W317-1020 (550-151758-33)

About 125 ml provided in container I

HPLC/IC
Method 300.0: The following samples were diluted for Fluoride due to the nature of the samples matrix: CH-CCR-M55-1020 (550-151758-5), CH-CCR-W301-1020 (550-151758-11), CH-CCR-W303-1020 (550-151758-15) and CH-CCR-W304-1020 (550-151758-17). This analyte was not detected in the diluted samples. Elevated reporting limits (RLs) have been provided.

Method 300.0: The following sample were diluted for Fluoride due to the nature of the sample matrix: CH-CCR-W305-1020 (550-151758-21), CH-CCR-W307-1020 (550-151758-25), CH-CCR-W308-1020 (550-151758-27), CH-CCR-W317-1020 (550-151758-33), CH-CCR-FD04-1020 (550-151758-34) and (550-151757-A-5 ^50). This analyte was not detected in the diluted samples. As such, elevated reporting limits (RLs) have been provided.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 200.8: insufficient sample volume
CH-CCR-M69-1020 (550-151758-7) and CH-CCR-W317-1020 (550-151758-33)

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-225482 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.8 LL: The continuing calibration blank (CCB) for analytical batch 550-226262 contained Selenium above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

Method 200.7: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Due to insufficient sample volume the samples were prepared at 25ml instead of the standard 50ml.

Method 200.7: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: Due to insufficient sample volume the samples were prepared at half volume.

Method 200.7: A deviation from the Standard Operating Procedure (SOP) occurred. Details are as follows: For method 200.7 we perform

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Job ID: 550-151758-1 (Continued)

Laboratory: Eurofins TestAmerica, Phoenix (Continued)

an MS/MSD for every 10 prepared samples. Due to analyst error only 1 MS/MSD pair was performed for prep batch 516897. Due to limited remaining volume the samples were not re-prepared.

Method 200.7: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 280-517511. An LCS/LCSD was added to the prep.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Field Service / Mobile Lab
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Sample Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
550-151758-1	CH-CCR-M52-1020	Water	10/22/20 15:14	10/26/20 14:25	
550-151758-2	CH-CCR-M52-1020	Water	10/22/20 15:14	10/26/20 14:25	
550-151758-3	CH-CCR-M53-1020	Water	10/22/20 11:33	10/26/20 14:25	
550-151758-4	CH-CCR-M53-1020	Water	10/22/20 11:33	10/26/20 14:25	
550-151758-5	CH-CCR-M55-1020	Water	10/24/20 09:02	10/26/20 14:25	
550-151758-6	CH-CCR-M55-1020	Water	10/24/20 09:02	10/26/20 14:25	
550-151758-7	CH-CCR-M69-1020	Water	10/23/20 09:47	10/26/20 14:25	
550-151758-8	CH-CCR-M69-1020	Water	10/23/20 09:47	10/26/20 14:25	
550-151758-9	CH-CCR-M70-1020	Water	10/23/20 07:57	10/26/20 14:25	
550-151758-10	CH-CCR-M70-1020	Water	10/23/20 07:57	10/26/20 14:25	
550-151758-11	CH-CCR-W301-1020	Water	10/22/20 09:05	10/26/20 14:25	
550-151758-12	CH-CCR-W301-1020	Water	10/22/20 09:05	10/26/20 14:25	
550-151758-13	CH-CCR-W302-1020	Water	10/23/20 12:50	10/26/20 14:25	
550-151758-14	CH-CCR-W302-1020	Water	10/23/20 12:50	10/26/20 14:25	
550-151758-15	CH-CCR-W303-1020	Water	10/22/20 10:16	10/26/20 14:25	
550-151758-16	CH-CCR-W303-1020	Water	10/22/20 10:16	10/26/20 14:25	
550-151758-17	CH-CCR-W304-1020	Water	10/23/20 14:05	10/26/20 14:25	
550-151758-18	CH-CCR-W304-1020	Water	10/23/20 14:05	10/26/20 14:25	
550-151758-19	CH-CCR-FD03-1020	Water	10/23/20 07:57	10/26/20 14:25	
550-151758-20	CH-CCR-FD03-1020	Water	10/23/20 07:57	10/26/20 14:25	
550-151758-21	CH-CCR-W305-1020	Water	10/22/20 12:47	10/26/20 14:25	
550-151758-22	CH-CCR-W305-1020	Water	10/22/20 12:47	10/26/20 14:25	
550-151758-23	CH-CCR-W306-1020	Water	10/22/20 13:55	10/26/20 14:25	
550-151758-24	CH-CCR-W306-1020	Water	10/22/20 13:55	10/26/20 14:25	
550-151758-25	CH-CCR-W307-1020	Water	10/23/20 15:20	10/26/20 14:25	
550-151758-26	CH-CCR-W307-1020	Water	10/23/20 15:20	10/26/20 14:25	
550-151758-27	CH-CCR-W308-1020	Water	10/24/20 08:04	10/26/20 14:25	
550-151758-28	CH-CCR-W308-1020	Water	10/24/20 08:04	10/26/20 14:25	
550-151758-29	CH-CCR-W309-1020	Water	10/24/20 10:10	10/26/20 14:25	
550-151758-30	CH-CCR-W309-1020	Water	10/24/20 10:10	10/26/20 14:25	
550-151758-31	CH-CCR-W314-1020	Water	10/23/20 11:17	10/26/20 14:25	
550-151758-32	CH-CCR-W314-1020	Water	10/23/20 11:17	10/26/20 14:25	
550-151758-33	CH-CCR-W317-1020	Water	10/21/20 11:27	10/26/20 14:25	
550-151758-34	CH-CCR-FD04-1020	Water	10/23/20 15:20	10/26/20 14:25	
550-151758-35	CH-CCR-FD04-1020	Water	10/23/20 15:20	10/26/20 14:25	

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-1020 — Lab Sample ID: 550-151758-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.9		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.41		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00012	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0012	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.014	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0020	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0087	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.067	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00053	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.086	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0026	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000080	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.3	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Ammonia	0.54		0.50	0.28	mg/L	1		SM 4500 NH3 D	Total/NA
Total Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M52-1020 — Lab Sample ID: 550-151758-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.21		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.070	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M53-1020 — Lab Sample ID: 550-151758-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2400	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	2.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.21		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.6		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	630		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.051	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	5.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0030	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0096	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.0011	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0021	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.011	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M53-1020 (Continued) — Lab Sample ID: 550-151758-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00045	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.036	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00048	B3 D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.6	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Ammonia	0.29	E4	0.50	0.28	mg/L	1		SM 4500 NH3 D	Total/NA
Total Organic Carbon	0.99		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M53-1020 — Lab Sample ID: 550-151758-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.051	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	4.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0028	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.012	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M55-1020 — Lab Sample ID: 550-151758-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	4700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.49	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.48	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3500	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.43		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.39		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	730		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.017		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00021	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0070	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.016	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000090	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.015	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00017	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0043	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.11	B3 D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000072	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	11000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	6.3	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	3.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M55-1020 — Lab Sample ID: 550-151758-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.057	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.016		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-M55-1020 (Continued) — Lab Sample ID: 550-151758-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0052	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.00050	D1 E4	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	3.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M69-1020 — Lab Sample ID: 550-151758-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.5	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3000	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.19		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	2.3		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	8.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0099	D1	0.0050	0.0025	mg/L	2		200.8 LL	Total/NA
Barium	0.024	D1	0.0050	0.0026	mg/L	2		200.8 LL	Total/NA
Cobalt	0.025	D1	0.0050	0.00063	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.047	D1	0.0050	0.0020	mg/L	2		200.8 LL	Total/NA
Selenium	0.0089	D1	0.0050	0.00074	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7800	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.5	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	7.2	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M69-1020 — Lab Sample ID: 550-151758-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	1.1		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	8.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0047	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.027	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.5		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-M70-1020 — Lab Sample ID: 550-151758-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.40	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.20		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.093	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-M70-1020 (Continued) — Lab Sample ID: 550-151758-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	0.00038	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0025	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0028	D1	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Thallium	0.000032	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	6.7	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-M70-1020 — Lab Sample ID: 550-151758-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.090	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.7		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0032	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.023	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W301-1020 — Lab Sample ID: 550-151758-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	6600	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.33	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	20	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3800	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.57		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.58		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	780		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.052	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0032	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0083	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00016	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.00089	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0057	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0035	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000086	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	13000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	6.7	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.6		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W301-1020 — Lab Sample ID: 550-151758-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W301-1020 (Continued) — Lab Sample ID: 550-151758-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0017	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.022	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.7		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W302-1020 — Lab Sample ID: 550-151758-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.82	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2300	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.37		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.57		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	640		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.19		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.057		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0013	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.014	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.031	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0052	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00066	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0085	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00051	B3 D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000028	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	7.2	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.57		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W302-1020 — Lab Sample ID: 550-151758-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.048		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0015	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.0056	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	0.75		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.75		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.75		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W303-1020 — Lab Sample ID: 550-151758-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.48	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	3400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.32		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	3.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	660		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.14		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.10		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W303-1020 (Continued) — Lab Sample ID: 550-151758-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Antimony	0.000094	D1 E4	0.0020	0.000087	mg/L	2		200.8 LL	Total/NA
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0046	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000088	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.025	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.021	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.019	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00072	B3 D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8600	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	6.9	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W303-1020 — Lab Sample ID: 550-151758-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.052	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.11		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0023	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.023	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W304-1020 — Lab Sample ID: 550-151758-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3000	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.25	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2900	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.45		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.44		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	600		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.20		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0010	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0091	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Chromium	0.0013	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0029	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0028	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.00021	B3 D1 E4	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000028	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	7.8	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.62		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W304-1020 — Lab Sample ID: 550-151758-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.18		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.1		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W304-1020 (Continued) — Lab Sample ID: 550-151758-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cobalt	0.0034	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-FD03-1020 — Lab Sample ID: 550-151758-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2200	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2600	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.19		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.1		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	680		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.085	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	1.8		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0020	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00042	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0014	D1 E4	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.022	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0022	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.030	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0027	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.4	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.0		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD03-1020 — Lab Sample ID: 550-151758-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.072	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	1.6		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0013	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.021	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W305-1020 — Lab Sample ID: 550-151758-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2500		400	100	mg/L	200		300.0	Total/NA
Fluoride	0.39	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2400		400	85	mg/L	200		300.0	Total/NA
Lithium	0.22		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.34		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	720		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.36		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	7.2		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.00068	D1 E4	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W305-1020 (Continued)   Lab Sample ID: 550-151758-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000056	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0025	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0021	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.022	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0036	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	6900	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.2	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.5		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W305-1020   Lab Sample ID: 550-151758-22

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.36		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	7.0		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0012	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.018	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	1.7	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.7	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.7	M2	0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W306-1020   Lab Sample ID: 550-151758-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2100		400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	13000		400	85	mg/L	200		300.0	Total/NA
Lithium	0.73		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.94		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	440		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.0011	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Antimony	0.00033	D1 E4	0.0040	0.00017	mg/L	4		200.8 LL	Total/NA
Arsenic	0.014	D1	0.0020	0.00099	mg/L	4		200.8 LL	Total/NA
Barium	0.022	D1	0.0020	0.0010	mg/L	4		200.8 LL	Total/NA
Cadmium	0.00020	D1 E4	0.00040	0.000092	mg/L	4		200.8 LL	Total/NA
Chromium	0.0017	D1 E4	0.0040	0.0017	mg/L	4		200.8 LL	Total/NA
Cobalt	0.0030	D1	0.0020	0.00025	mg/L	4		200.8 LL	Total/NA
Molybdenum	0.073	D1	0.0020	0.00081	mg/L	4		200.8 LL	Total/NA
Selenium	0.0055	D1	0.0020	0.00030	mg/L	4		200.8 LL	Total/NA
Total Dissolved Solids	18000	D2	200	200	mg/L	1		SM 2540C	Total/NA
pH	7.7	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.0	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	2.2		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W306-1020   Lab Sample ID: 550-151758-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.10		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.0015	E4	0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W306-1020 (Continued) Lab Sample ID: 550-151758-24

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	0.0071	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.0018	D1 E4	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	2.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W307-1020 Lab Sample ID: 550-151758-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100		400	100	mg/L	200		300.0	Total/NA
Fluoride	0.52	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800		400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	810		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.042		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00064	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.013	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.069	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0011	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.018	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0024	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.5	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W307-1020 Lab Sample ID: 550-151758-26

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.16		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.041		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0022	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.069	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W308-1020 Lab Sample ID: 550-151758-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3400		400	100	mg/L	200		300.0	Total/NA
Fluoride	0.48	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	0.68	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2800		400	85	mg/L	200		300.0	Total/NA
Lithium	0.42		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.41		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	820		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.12		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CH-CCR-W308-1020 (Continued) — Lab Sample ID: 550-151758-27

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.34		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0024	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0084	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000074	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.028	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.0027	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.012	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000028	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8700	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.0	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.9	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.93		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W308-1020 — Lab Sample ID: 550-151758-28

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.053	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.32		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0015	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.080	D1	0.0020	0.00025	mg/L	4		200.8 LL	Dissolved
Dissolved Organic Carbon	0.95		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.94		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.95		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W309-1020 — Lab Sample ID: 550-151758-29

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1700	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	1.1	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	3.2	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	3400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.33		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	0.43		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	450		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.11		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.56		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0089	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.0071	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.000066	D1 E4	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.11	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00060	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.017	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.21	B3 D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Thallium	0.000052	D1 E4	0.00020	0.000026	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7100	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.47	E4	0.50	0.26	mg/L	1		SM 5310B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W309-1020

Lab Sample ID: 550-151758-30

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.038	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.55		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0093		0.0010	0.00049	mg/L	2		200.8 LL	Dissolved
Cobalt	0.00038	D1 E4	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	0.54		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.54		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.54		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-31

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	2800	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.90	D1	0.80	0.095	mg/L	2		300.0	Total/NA
Nitrate Nitrite as N	4.5	D1	0.25	0.11	mg/L	5		300.0	Total/NA
Sulfate	2400	D2	400	85	mg/L	200		300.0	Total/NA
Lithium	0.31		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	1.2		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	790		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.058	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.082		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0019	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.011	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00031	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.0091	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.024	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.00058	D1 E4	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.011	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0020	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	7200	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.2	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	8.6	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	0.95		0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-32

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.040	E4	0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.082		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.025	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	0.98		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	0.98		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	0.98		0.50	0.26	mg/L	1		SM 5310B	Dissolved

Client Sample ID: CH-CCR-W317-1020

Lab Sample ID: 550-151758-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	1500	D2	400	100	mg/L	200		300.0	Total/NA
Fluoride	0.36	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	680	D2	400	85	mg/L	200		300.0	Total/NA
Beryllium	0.00010	E4	0.0010	0.000067	mg/L	1		200.7 Rev 4.4	Total/NA
Lithium	0.064		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Phoenix

Client Sample ID: CH-CCR-W317-1020 (Continued) — Lab Sample ID: 550-151758-33

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Boron	0.20		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	350	M3	2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0046	D1	0.0020	0.00099	mg/L	2		200.8 LL	Total/NA
Barium	0.036	D1	0.0020	0.0010	mg/L	2		200.8 LL	Total/NA
Chromium	0.0079	D1	0.0040	0.0017	mg/L	2		200.8 LL	Total/NA
Cobalt	0.00073	D1 E4	0.0020	0.00025	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.0041	D1	0.0020	0.00081	mg/L	2		200.8 LL	Total/NA
Selenium	0.0028	D1	0.0020	0.00030	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	3500	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.6	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.6	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA

Client Sample ID: CH-CCR-FD04-1020 — Lab Sample ID: 550-151758-34

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chloride	3100		400	100	mg/L	200		300.0	Total/NA
Fluoride	0.49	D1 D5 E4	0.80	0.095	mg/L	2		300.0	Total/NA
Sulfate	2800		400	85	mg/L	200		300.0	Total/NA
Lithium	0.26		0.020	0.0091	mg/L	1		200.7 Rev 4.4	Total/NA
Boron	2.5		0.050	0.0025	mg/L	1		200.7 Rev 4.4	Total/NA
Calcium	790		2.0	0.013	mg/L	1		200.7 Rev 4.4	Total/NA
Iron	0.18		0.10	0.010	mg/L	1		200.7 Rev 4.4	Total/NA
Manganese	0.042		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Total/NA
Arsenic	0.0014	D1	0.0010	0.00049	mg/L	2		200.8 LL	Total/NA
Barium	0.013	D1	0.0010	0.00052	mg/L	2		200.8 LL	Total/NA
Cadmium	0.00056	D1	0.00020	0.000046	mg/L	2		200.8 LL	Total/NA
Chromium	0.013	D1	0.0020	0.00087	mg/L	2		200.8 LL	Total/NA
Cobalt	0.070	D1	0.0010	0.00013	mg/L	2		200.8 LL	Total/NA
Lead	0.0011	D1	0.0010	0.00044	mg/L	2		200.8 LL	Total/NA
Molybdenum	0.017	D1	0.0010	0.00040	mg/L	2		200.8 LL	Total/NA
Selenium	0.0024	D1	0.0010	0.00015	mg/L	2		200.8 LL	Total/NA
Total Dissolved Solids	8000	D2	100	100	mg/L	1		SM 2540C	Total/NA
pH	7.3	H5	1.7		SU	1		SM 4500 H+ B	Total/NA
Temperature	9.1	H5	0.1		Degrees C	1		SM 4500 H+ B	Total/NA
Total Organic Carbon	1.1	M2	0.50	0.26	mg/L	1		SM 5310B	Total/NA

Client Sample ID: CH-CCR-FD04-1020 — Lab Sample ID: 550-151758-35

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Iron	0.17		0.10	0.010	mg/L	1		200.7 Rev 4.4	Dissolved
Manganese	0.041		0.010	0.00019	mg/L	1		200.7 Rev 4.4	Dissolved
Arsenic	0.0020	D1	0.0020	0.00099	mg/L	4		200.8 LL	Dissolved
Cobalt	0.074	D1	0.0010	0.00013	mg/L	2		200.8 LL	Dissolved
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L	1		SM 5310B	Dissolved

This Detection Summary does not include radiochemical test results.

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-1020

Lab Sample ID: 550-151758-1
Date Collected: 10/22/20 15:14
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400	100	mg/L			10/28/20 22:44	200
Fluoride	1.5	D1	0.80	0.095	mg/L			10/28/20 22:25	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 16:54	5
Sulfate	3000	D2	400	85	mg/L			10/28/20 22:44	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:05	1
Lithium	0.20		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 17:43	1
Boron	2.9		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:05	1
Calcium	660		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:05	1
Iron	0.41		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:05	1
Manganese	1.6		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:05	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00012	D1 E4	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:34	2
Arsenic	0.0012	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:14	2
Barium	0.014	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:14	2
Cadmium	0.0020	D1	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:34	2
Chromium	0.0087	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:34	2
Cobalt	0.067	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:34	2
Lead	0.00053	D1 E4	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:34	2
Molybdenum	0.086	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:34	2
Selenium	0.0026	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 13:26	2
Thallium	0.000080	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:34	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:21	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7700	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.4	H5	1.7		SU			11/02/20 18:00	1
Temperature	8.3	H5	0.1		Degrees C			11/02/20 18:00	1
Ammonia	0.54		0.50	0.28	mg/L			11/07/20 13:33	1
Total Organic Carbon	1.2		0.50	0.26	mg/L			10/28/20 14:38	1

Client Sample ID: CH-CCR-M52-1020

Lab Sample ID: 550-151758-2
Date Collected: 10/22/20 15:14
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.21		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:11	1
Manganese	1.6		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:11	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:26	4

Client Sample ID: CH-CCR-M52-1020

Lab Sample ID: 550-151758-2

Date Collected: 10/22/20 15:14
Date Received: 10/26/20 14:25

Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.070	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:26	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			10/27/20 13:51	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			10/27/20 13:51	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			10/27/20 13:51	1

Client Sample ID: CH-CCR-M53-1020

Lab Sample ID: 550-151758-3

Date Collected: 10/22/20 11:33
Date Received: 10/26/20 14:25

Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2400	D2	400	100	mg/L			10/29/20 19:25	200
Fluoride	2.5	D1	0.80	0.095	mg/L			10/29/20 19:07	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 18:43	5
Sulfate	3000	D2	400	85	mg/L			10/29/20 19:25	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:09	1
Lithium	0.21		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 17:46	1
Boron	3.6		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:09	1
Calcium	630		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:09	1
Iron	0.051	E4	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:09	1
Manganese	5.2		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:09	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00010	D1 E4	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:36	2
Arsenic	0.0030	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:16	2
Barium	0.0096	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:16	2
Cadmium	0.0011	D1	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:36	2
Chromium	0.0021	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:36	2
Cobalt	0.011	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:36	2
Lead	0.00045	D1 E4	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:36	2
Molybdenum	0.036	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:36	2
Selenium	0.00048	B3 D1 E4	0.0010	0.00015	mg/L		11/02/20 10:09	11/12/20 22:36	2
Thallium	0.00011	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:36	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:23	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7500	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.5	H5	1.7		SU			11/02/20 18:00	1
Temperature	8.6	H5	0.1		Degrees C			11/02/20 18:00	1

Client Sample ID: CH-CCR-M53-1020
Lab Sample ID: 550-151758-3
Date Collected: 10/22/20 11:33
Matrix: Water
Date Received: 10/26/20 14:25

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	0.29	E4	0.50	0.28	mg/L			11/07/20 13:42	1
Total Organic Carbon	0.99		0.50	0.26	mg/L			11/05/20 19:44	1

Client Sample ID: CH-CCR-M53-1020
Lab Sample ID: 550-151758-4
Date Collected: 10/22/20 11:33
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.051	E4	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:15	1
Manganese	4.7		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:15	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0028	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:28	4
Cobalt	0.012	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:28	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.1		0.50	0.26	mg/L			10/27/20 14:02	1
Dissolved Organic Carbon - Duplicate	1.1		0.50	0.26	mg/L			10/27/20 14:02	1
Dissolved Organic Carbon - Quad	1.1		0.50	0.26	mg/L			10/27/20 14:02	1

Client Sample ID: CH-CCR-M55-1020
Lab Sample ID: 550-151758-5
Date Collected: 10/24/20 09:02
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	4700	D2	400	100	mg/L			10/28/20 23:20	200
Fluoride	0.49	D1 D5 E4	0.80	0.095	mg/L			10/28/20 23:02	2
Nitrate Nitrite as N	0.48	D1	0.25	0.11	mg/L			10/28/20 19:11	5
Sulfate	3500	D2	400	85	mg/L			10/28/20 23:20	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:13	1
Lithium	0.43		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 17:50	1
Boron	0.39		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:13	1
Calcium	730		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:13	1
Iron	0.17		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:13	1
Manganese	0.017		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:13	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00021	D1 E4	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:38	2
Arsenic	0.0070	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:18	2
Barium	0.016	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:18	2
Cadmium	0.000090	D1 E4	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:38	2
Chromium	0.015	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:38	2
Cobalt	0.00017	D1 E4	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:38	2

Client Sample ID: CH-CCR-M55-1020

Lab Sample ID: 550-151758-5
Date Collected: 10/24/20 09:02
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:38	2
Molybdenum	0.0043	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:38	2
Selenium	0.11	B3 D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/12/20 22:38	2
Thallium	0.000072	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:38	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:39	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	11000	D2	200	200	mg/L			10/28/20 09:27	1
pH	7.4	H5	1.7		SU			11/04/20 16:10	1
Temperature	6.3	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 13:50	1
Total Organic Carbon	3.0		0.50	0.26	mg/L			10/28/20 15:02	1

Client Sample ID: CH-CCR-M55-1020

Lab Sample ID: 550-151758-6
Date Collected: 10/24/20 09:02
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.057	E4	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:18	1
Manganese	0.016		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:18	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0052	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:30	4
Cobalt	0.00050	D1 E4	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:30	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	3.2		0.50	0.26	mg/L			10/27/20 14:15	1
Dissolved Organic Carbon - Duplicate	3.2		0.50	0.26	mg/L			10/27/20 14:15	1
Dissolved Organic Carbon - Quad	3.2		0.50	0.26	mg/L			10/27/20 14:15	1

Client Sample ID: CH-CCR-M69-1020

Lab Sample ID: 550-151758-7
Date Collected: 10/23/20 09:47
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2500	D2	400	100	mg/L			10/28/20 23:57	200
Fluoride	1.5	D1	0.80	0.095	mg/L			10/28/20 23:39	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 19:38	5
Sulfate	3000	D2	400	85	mg/L			10/28/20 23:57	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:16	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M69-1020

Lab Sample ID: 550-151758-7

Date Collected: 10/23/20 09:47
Date Received: 10/26/20 14:25

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.19		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 17:53	1
Boron	3.1		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:16	1
Calcium	660		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:16	1
Iron	2.3		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:16	1
Manganese	8.2		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:16	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.010	0.00043	mg/L		11/02/20 10:09	11/20/20 17:52	2
Arsenic	0.0099	D1	0.0050	0.0025	mg/L		11/02/20 10:09	11/20/20 17:52	2
Barium	0.024	D1	0.0050	0.0026	mg/L		11/02/20 10:09	11/20/20 17:52	2
Cadmium	ND	D1 E8	0.0010	0.00023	mg/L		11/02/20 10:09	11/20/20 17:52	2
Chromium	ND	D1 E8	0.010	0.0043	mg/L		11/02/20 10:09	11/20/20 17:52	2
Cobalt	0.025	D1	0.0050	0.00063	mg/L		11/02/20 10:09	11/20/20 17:52	2
Lead	ND	D1 E8	0.0050	0.0022	mg/L		11/02/20 10:09	11/20/20 17:52	2
Molybdenum	0.047	D1	0.0050	0.0020	mg/L		11/02/20 10:09	11/20/20 17:52	2
Selenium	0.0089	D1	0.0050	0.00074	mg/L		11/02/20 10:09	11/30/20 13:09	2
Thallium	ND	D1 E8	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:52	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:41	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7800	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.5	H5	1.7		SU			11/04/20 16:10	1
Temperature	7.2	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:00	1
Total Organic Carbon	1.5		0.50	0.26	mg/L			11/04/20 17:42	1

Client Sample ID: CH-CCR-M69-1020

Lab Sample ID: 550-151758-8

Date Collected: 10/23/20 09:47
Date Received: 10/26/20 14:25

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	1.1		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:22	1
Manganese	8.1		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:22	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0047	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:34	4
Cobalt	0.027	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:34	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.5		0.50	0.26	mg/L			10/27/20 14:25	1
Dissolved Organic Carbon - Duplicate	1.5		0.50	0.26	mg/L			10/27/20 14:25	1
Dissolved Organic Carbon - Quad	1.5		0.50	0.26	mg/L			10/27/20 14:25	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M70-1020

Lab Sample ID: 550-151758-9
Date Collected: 10/23/20 07:57
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			10/29/20 01:11	200
Fluoride	1.1	D1	0.80	0.095	mg/L			10/29/20 00:52	2
Nitrate Nitrite as N	0.40	D1	0.25	0.11	mg/L			10/28/20 20:33	5
Sulfate	2600	D2	400	85	mg/L			10/29/20 01:11	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:20	1
Lithium	0.20		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 17:56	1
Boron	2.1		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:20	1
Calcium	660		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:20	1
Iron	0.093	E4	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:20	1
Manganese	1.8		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:20	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:40	2
Arsenic	0.0013	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:21	2
Barium	0.013	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:21	2
Cadmium	0.00038	D1	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:40	2
Chromium	ND	D1 E8	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:40	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:40	2
Lead	0.0025	D1	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:40	2
Molybdenum	0.031	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:40	2
Selenium	0.0028	D1	0.0020	0.00030	mg/L		11/02/20 10:09	12/07/20 11:43	4
Thallium	0.000032	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:40	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:42	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6900	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.4	H5	1.7		SU			11/04/20 16:10	1
Temperature	6.7	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:08	1
Total Organic Carbon	1.1		0.50	0.26	mg/L			10/28/20 15:25	1

Client Sample ID: CH-CCR-M70-1020

Lab Sample ID: 550-151758-10
Date Collected: 10/23/20 07:57
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.090	E4	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:26	1
Manganese	1.7		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:26	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0032	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:32	4

Client Sample ID: CH-CCR-M70-1020

Lab Sample ID: 550-151758-10

Date Collected: 10/23/20 07:57

Matrix: Water

Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.023	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:32	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			10/27/20 14:37	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			10/27/20 14:37	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			10/27/20 14:37	1

Client Sample ID: CH-CCR-W301-1020

Lab Sample ID: 550-151758-11

Date Collected: 10/22/20 09:05

Matrix: Water

Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	6600	D2	400	100	mg/L			10/29/20 01:48	200
Fluoride	0.33	D1 D5 E4	0.80	0.095	mg/L			10/29/20 01:29	2
Nitrate Nitrite as N	20	D1	0.25	0.11	mg/L			10/28/20 21:00	5
Sulfate	3800	D2	400	85	mg/L			10/29/20 01:48	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:24	1
Lithium	0.57		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:00	1
Boron	0.58		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:24	1
Calcium	780		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:24	1
Iron	0.052	E4	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:24	1
Manganese	1.6		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:24	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:43	2
Arsenic	0.0032	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:23	2
Barium	0.0083	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:23	2
Cadmium	0.00016	D1 E4	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:43	2
Chromium	0.00089	D1 E4	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:43	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:43	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:43	2
Molybdenum	0.0057	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:43	2
Selenium	0.0035	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 12:47	2
Thallium	0.000086	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:43	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:24	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	13000	D2	200	200	mg/L			10/27/20 08:45	1
pH	7.4	H5	1.7		SU			11/04/20 16:10	1
Temperature	6.7	H5	0.1		Degrees C			11/04/20 16:10	1

Client Sample ID: CH-CCR-W301-1020
Lab Sample ID: 550-151758-11
Date Collected: 10/22/20 09:05
Matrix: Water
Date Received: 10/26/20 14:25

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:16	1
Total Organic Carbon	**2.6**		0.50	0.26	mg/L			10/28/20 15:37	1

Client Sample ID: CH-CCR-W301-1020
Lab Sample ID: 550-151758-12
Date Collected: 10/22/20 09:05
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.040**	**E4**	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:30	1
Manganese	**1.6**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:30	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0017**	**D1 E4**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:36	4
Cobalt	**0.022**	**D1**	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:36	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**2.7**		0.50	0.26	mg/L			10/28/20 11:38	1
Dissolved Organic Carbon - Duplicate	**2.7**		0.50	0.26	mg/L			10/28/20 11:38	1
Dissolved Organic Carbon - Quad	**2.7**		0.50	0.26	mg/L			10/28/20 11:38	1

Client Sample ID: CH-CCR-W302-1020
Lab Sample ID: 550-151758-13
Date Collected: 10/23/20 12:50
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3200**	**D2**	400	100	mg/L			10/29/20 02:24	200
Fluoride	**0.82**	**D1**	0.80	0.095	mg/L			10/29/20 02:06	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 22:23	5
Sulfate	**2300**	**D2**	400	85	mg/L			10/29/20 02:24	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:28	1
Lithium	**0.37**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:03	1
Boron	**0.57**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:28	1
Calcium	**640**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:28	1
Iron	**0.19**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:28	1
Manganese	**0.057**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:28	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:45	2
Arsenic	**0.0013**	**D1**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:25	2
Barium	**0.014**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:25	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:45	2
Chromium	**0.031**	**D1**	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:45	2
Cobalt	**0.0052**	**D1**	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:45	2

Client Sample ID: CH-CCR-W302-1020
Lab Sample ID: 550-151758-13
Date Collected: 10/23/20 12:50
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	**0.00066**	**D1 E4**	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:45	2
Molybdenum	**0.0085**	**D1**	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:45	2
Selenium	**0.00051**	**B3 D1 E4**	0.0010	0.00015	mg/L		11/02/20 10:09	11/12/20 22:45	2
Thallium	**0.000028**	**D1 E4**	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:45	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:44	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7700**	**D2**	100	100	mg/L			10/27/20 08:45	1
pH	**7.3**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**7.2**	**H5**	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:23	1
Total Organic Carbon	**0.57**		0.50	0.26	mg/L			10/28/20 16:09	1

Client Sample ID: CH-CCR-W302-1020
Lab Sample ID: 550-151758-14
Date Collected: 10/23/20 12:50
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.12**		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:34	1
Manganese	**0.048**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:34	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0015**	**D1 E4**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:43	4
Cobalt	**0.0056**	**D1**	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:43	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.75**		0.50	0.26	mg/L			10/27/20 15:02	1
Dissolved Organic Carbon - Duplicate	**0.75**		0.50	0.26	mg/L			10/27/20 15:02	1
Dissolved Organic Carbon - Quad	**0.75**		0.50	0.26	mg/L			10/27/20 15:02	1

Client Sample ID: CH-CCR-W303-1020
Lab Sample ID: 550-151758-15
Date Collected: 10/22/20 10:16
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**D2**	400	100	mg/L			10/29/20 03:01	200
Fluoride	**0.48**	**D1 D5 E4**	0.80	0.095	mg/L			10/29/20 02:43	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 22:50	5
Sulfate	**3400**	**D2**	400	85	mg/L			10/29/20 03:01	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:31	1

Client Sample ID: CH-CCR-W303-1020
Lab Sample ID: 550-151758-15
Date Collected: 10/22/20 10:16
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.32		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:27	1
Boron	3.2		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:31	1
Calcium	660		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:31	1
Iron	0.14		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:31	1
Manganese	0.10		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:31	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.000094	D1 E4	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:47	2
Arsenic	0.0014	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:27	2
Barium	0.0046	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:27	2
Cadmium	0.000088	D1 E4	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:47	2
Chromium	0.025	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:47	2
Cobalt	0.021	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:47	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:47	2
Molybdenum	0.019	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:47	2
Selenium	0.00072	B3 D1 E4	0.0010	0.00015	mg/L		11/02/20 10:09	11/12/20 22:47	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:47	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:26	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8600	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.4	H5	1.7		SU			11/04/20 16:10	1
Temperature	6.9	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:32	1
Total Organic Carbon	1.1		0.50	0.26	mg/L			11/04/20 17:53	1

Client Sample ID: CH-CCR-W303-1020
Lab Sample ID: 550-151758-16
Date Collected: 10/22/20 10:16
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.052	E4	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:37	1
Manganese	0.11		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:37	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0023	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:45	4
Cobalt	0.023	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:45	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.2		0.50	0.26	mg/L			10/27/20 15:15	1
Dissolved Organic Carbon - Duplicate	1.2		0.50	0.26	mg/L			10/27/20 15:15	1
Dissolved Organic Carbon - Quad	1.2		0.50	0.26	mg/L			10/27/20 15:15	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W304-1020
Lab Sample ID: 550-151758-17
Date Collected: 10/23/20 14:05
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3000**	**D2**	400	100	mg/L			10/29/20 03:38	200
Fluoride	**0.25**	**D1 D5 E4**	0.80	0.095	mg/L			10/29/20 03:20	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/28/20 23:17	5
Sulfate	**2900**	**D2**	400	85	mg/L			10/29/20 03:38	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:35	1
Lithium	**0.45**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:40	1
Boron	**0.44**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:35	1
Calcium	**600**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:35	1
Iron	**0.20**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:35	1
Manganese	**1.2**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:35	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/12/20 22:49	2
Arsenic	**0.0010**	**D1**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:29	2
Barium	**0.0091**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:29	2
Cadmium	ND	D1 E8	0.00020	0.000046	mg/L		11/02/20 10:09	11/12/20 22:49	2
Chromium	**0.0013**	**D1 E4**	0.0020	0.00087	mg/L		11/02/20 10:09	11/12/20 22:49	2
Cobalt	**0.0029**	**D1**	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:49	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/12/20 22:49	2
Molybdenum	**0.0028**	**D1**	0.0010	0.00040	mg/L		11/02/20 10:09	11/12/20 22:49	2
Selenium	**0.00021**	**B3 D1 E4**	0.0010	0.00015	mg/L		11/02/20 10:09	11/12/20 22:49	2
Thallium	**0.000028**	**D1 E4**	0.00020	0.000026	mg/L		11/02/20 10:09	11/12/20 22:49	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:45	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8500**	**D2**	100	100	mg/L			10/28/20 09:27	1
pH	**7.4**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**7.8**	**H5**	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 14:38	1
Total Organic Carbon	**0.62**		0.50	0.26	mg/L			10/28/20 16:32	1

Client Sample ID: CH-CCR-W304-1020
Lab Sample ID: 550-151758-18
Date Collected: 10/23/20 14:05
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.18**		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:49	1
Manganese	**1.1**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:49	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	D1 E8	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:47	4

Client Sample ID: CH-CCR-W304-1020

Lab Sample ID: 550-151758-18
Date Collected: 10/23/20 14:05
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.0034	D1	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:47	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			10/27/20 15:28	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			10/27/20 15:28	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			10/27/20 15:28	1

Client Sample ID: CH-CCR-FD03-1020

Lab Sample ID: 550-151758-19
Date Collected: 10/23/20 07:57
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2200	D2	400	100	mg/L			10/29/20 20:02	200
Fluoride	1.1	D1	0.80	0.095	mg/L			10/29/20 19:44	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/29/20 00:12	5
Sulfate	2600	D2	400	85	mg/L			10/29/20 20:02	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:47	1
Lithium	0.19		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:44	1
Boron	2.1		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:47	1
Calcium	680		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:47	1
Iron	0.085	E4	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:47	1
Manganese	1.8		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:47	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:35	2
Arsenic	0.0020	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:35	2
Barium	0.013	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:35	2
Cadmium	0.00042	D1	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:35	2
Chromium	0.0014	D1 E4	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:35	2
Cobalt	0.022	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:35	2
Lead	0.0022	D1	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:35	2
Molybdenum	0.030	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:35	2
Selenium	0.0027	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 12:49	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:35	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:47	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6900	D2	100	100	mg/L			10/28/20 09:27	1
pH	7.4	H5	1.7		SU			11/04/20 16:10	1
Temperature	8.0	H5	0.1		Degrees C			11/04/20 16:10	1

Client Sample ID: CH-CCR-FD03-1020 — Lab Sample ID: 550-151758-19
Date Collected: 10/23/20 07:57 — Matrix: Water
Date Received: 10/26/20 14:25

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:05	1
Total Organic Carbon	**1.0**		0.50	0.26	mg/L			11/04/20 18:04	1

Client Sample ID: CH-CCR-FD03-1020 — Lab Sample ID: 550-151758-20
Date Collected: 10/23/20 07:57 — Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.072**	**E4**	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:52	1
Manganese	**1.6**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:52	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0013**	**D1 E4**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:49	4
Cobalt	**0.021**	**D1**	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:49	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.1**		0.50	0.26	mg/L			10/27/20 15:41	1
Dissolved Organic Carbon - Duplicate	**1.1**		0.50	0.26	mg/L			10/27/20 15:41	1
Dissolved Organic Carbon - Quad	**1.1**		0.50	0.26	mg/L			10/27/20 15:41	1

Client Sample ID: CH-CCR-W305-1020 — Lab Sample ID: 550-151758-21
Date Collected: 10/22/20 12:47 — Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2500**		400	100	mg/L			10/29/20 21:16	200
Fluoride	**0.39**	**D1 D5 E4**	0.80	0.095	mg/L			10/29/20 20:57	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/29/20 00:40	5
Sulfate	**2400**		400	85	mg/L			10/29/20 21:16	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:50	1
Lithium	**0.22**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:00	1
Boron	**0.34**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:50	1
Calcium	**720**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:50	1
Iron	**0.36**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:50	1
Manganese	**7.2**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:50	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:37	2
Arsenic	**0.00068**	**D1 E4**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:37	2
Barium	**0.013**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:37	2
Cadmium	**0.000056**	**D1 E4**	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:37	2
Chromium	**0.0025**	**D1**	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:37	2
Cobalt	**0.018**	**D1**	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:37	2

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W305-1020

Lab Sample ID: 550-151758-21
Date Collected: 10/22/20 12:47
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0021	D1	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:37	2
Molybdenum	0.022	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:37	2
Selenium	0.0036	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 12:51	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:37	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:27	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	6900	D2	100	100	mg/L			10/27/20 08:45	1
pH	7.3	H5	1.7		SU			11/04/20 16:10	1
Temperature	8.2	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:15	1
Total Organic Carbon	1.5		0.50	0.26	mg/L			10/28/20 16:56	1

Client Sample ID: CH-CCR-W305-1020

Lab Sample ID: 550-151758-22
Date Collected: 10/22/20 12:47
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.36		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:56	1
Manganese	7.0		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:56	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0012	D1 E4	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:51	4
Cobalt	0.018	D1	0.0010	0.00013	mg/L		10/27/20 06:29	11/09/20 20:29	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.7	M2	0.50	0.26	mg/L			10/27/20 16:57	1
Dissolved Organic Carbon - Duplicate	1.7	M2	0.50	0.26	mg/L			10/27/20 16:57	1
Dissolved Organic Carbon - Quad	1.7	M2	0.50	0.26	mg/L			10/27/20 16:57	1

Client Sample ID: CH-CCR-W306-1020

Lab Sample ID: 550-151758-23
Date Collected: 10/22/20 13:55
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	2100		400	100	mg/L			10/29/20 21:52	200
Fluoride	1.1	D1	0.80	0.095	mg/L			10/29/20 21:34	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/29/20 01:07	5
Sulfate	13000		400	85	mg/L			10/29/20 21:52	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:54	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W306-1020 — Lab Sample ID: 550-151758-23

Date Collected: 10/22/20 13:55 — **Matrix: Water**
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.73		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:04	1
Boron	0.94		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:54	1
Calcium	440		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:54	1
Iron	0.11		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 03:54	1
Manganese	0.0011	E4	0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 03:54	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.00033	D1 E4	0.0040	0.00017	mg/L		11/02/20 10:09	11/20/20 17:39	4
Arsenic	0.014	D1	0.0020	0.00099	mg/L		11/02/20 10:09	11/20/20 17:39	4
Barium	0.022	D1	0.0020	0.0010	mg/L		11/02/20 10:09	11/20/20 17:39	4
Cadmium	0.00020	D1 E4	0.00040	0.000092	mg/L		11/02/20 10:09	11/20/20 17:39	4
Chromium	0.0017	D1 E4	0.0040	0.0017	mg/L		11/02/20 10:09	11/20/20 17:39	4
Cobalt	0.0030	D1	0.0020	0.00025	mg/L		11/02/20 10:09	11/20/20 17:39	4
Lead	ND	D1 E8	0.0020	0.00088	mg/L		11/02/20 10:09	11/20/20 17:39	4
Molybdenum	0.073	D1	0.0020	0.00081	mg/L		11/02/20 10:09	11/20/20 17:39	4
Selenium	0.0055	D1	0.0020	0.00030	mg/L		11/02/20 10:09	11/30/20 14:29	4
Thallium	ND	D1 E8	0.00040	0.000053	mg/L		11/02/20 10:09	11/20/20 17:39	4

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:32	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	18000	D2	200	200	mg/L			10/27/20 08:45	1
pH	7.7	H5	1.7		SU			11/04/20 16:10	1
Temperature	9.0	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:24	1
Total Organic Carbon	2.2		0.50	0.26	mg/L			10/28/20 17:08	1

Client Sample ID: CH-CCR-W306-1020 — Lab Sample ID: 550-151758-24

Date Collected: 10/22/20 13:55 — **Matrix: Water**
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.10		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 21:00	1
Manganese	0.0015	E4	0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 21:00	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0071	D1	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:53	4
Cobalt	0.0018	D1 E4	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:53	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	2.2		0.50	0.26	mg/L			10/27/20 17:33	1
Dissolved Organic Carbon - Duplicate	2.2		0.50	0.26	mg/L			10/27/20 17:33	1
Dissolved Organic Carbon - Quad	2.2		0.50	0.26	mg/L			10/27/20 17:33	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-25
Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3100**		400	100	mg/L			10/29/20 23:06	200
Fluoride	**0.52**	**D1 D5 E4**	0.80	0.095	mg/L			10/29/20 22:48	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/29/20 02:02	5
Sulfate	**2800**		400	85	mg/L			10/29/20 23:06	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 05:55	1
Lithium	**0.26**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:07	1
Boron	**2.5**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 05:55	1
Calcium	**810**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 05:55	1
Iron	**0.17**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 05:55	1
Manganese	**0.042**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 05:55	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:42	2
Arsenic	**0.0014**	**D1**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:42	2
Barium	**0.013**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:42	2
Cadmium	**0.00064**	**D1**	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:42	2
Chromium	**0.013**	**D1**	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:42	2
Cobalt	**0.069**	**D1**	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:42	2
Lead	**0.0011**	**D1**	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:42	2
Molybdenum	**0.018**	**D1**	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:42	2
Selenium	**0.0024**	**D1**	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 13:28	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:42	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:51	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8100**	**D2**	100	100	mg/L			10/28/20 09:27	1
pH	**7.2**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**9.5**	**H5**	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:31	1
Total Organic Carbon	**1.1**		0.50	0.26	mg/L			10/28/20 17:19	1

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-26
Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.16**		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 21:04	1
Manganese	**0.041**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 21:04	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0022**	**D1**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:55	4

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-26
Date Collected: 10/23/20 15:20
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.8 LL - Metals (ICP/MS) - Dissolved (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	0.069	D1	0.0010	0.00013	mg/L		10/27/20 06:29	11/09/20 20:33	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	1.3		0.50	0.26	mg/L			10/27/20 17:43	1
Dissolved Organic Carbon - Duplicate	1.3		0.50	0.26	mg/L			10/27/20 17:43	1
Dissolved Organic Carbon - Quad	1.3		0.50	0.26	mg/L			10/27/20 17:43	1

Client Sample ID: CH-CCR-W308-1020

Lab Sample ID: 550-151758-27
Date Collected: 10/24/20 08:04
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	3400		400	100	mg/L			10/29/20 23:43	200
Fluoride	0.48	D1 D5 E4	0.80	0.095	mg/L			10/29/20 23:24	2
Nitrate Nitrite as N	0.68	D1	0.25	0.11	mg/L			10/29/20 02:29	5
Sulfate	2800		400	85	mg/L			10/29/20 23:43	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 05:58	1
Lithium	0.42		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:11	1
Boron	0.41		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 05:58	1
Calcium	820		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 05:58	1
Iron	0.12		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 05:58	1
Manganese	0.34		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 05:58	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:44	2
Arsenic	0.0024	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:44	2
Barium	0.0084	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:44	2
Cadmium	0.000074	D1 E4	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:44	2
Chromium	0.028	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:44	2
Cobalt	0.0027	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:44	2
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:44	2
Molybdenum	0.0031	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:44	2
Selenium	0.012	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 13:03	2
Thallium	0.000028	D1 E4	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:44	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:53	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	8700	D2	100	100	mg/L			10/28/20 09:27	1
pH	7.0	H5	1.7		SU			11/04/20 16:10	1
Temperature	9.9	H5	0.1		Degrees C			11/04/20 16:10	1

Client Sample Results

Client Sample ID: CH-CCR-W308-1020 — Lab Sample ID: 550-151758-27

Date Collected: 10/24/20 08:04 — **Matrix: Water**
Date Received: 10/26/20 14:25

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:37	1
Total Organic Carbon	**0.93**		0.50	0.26	mg/L			10/28/20 17:32	1

Client Sample ID: CH-CCR-W308-1020 — Lab Sample ID: 550-151758-28

Date Collected: 10/24/20 08:04 — **Matrix: Water**
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.053**	**E4**	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 21:08	1
Manganese	**0.32**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 21:08	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0015**	**D1 E4**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:57	4
Cobalt	**0.080**	**D1**	0.0020	0.00025	mg/L		10/27/20 06:29	11/20/20 10:57	4

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.95**		0.50	0.26	mg/L			10/27/20 17:54	1
Dissolved Organic Carbon - Duplicate	**0.94**		0.50	0.26	mg/L			10/27/20 17:54	1
Dissolved Organic Carbon - Quad	**0.95**		0.50	0.26	mg/L			10/27/20 17:54	1

Client Sample ID: CH-CCR-W309-1020 — Lab Sample ID: 550-151758-29

Date Collected: 10/24/20 10:10 — **Matrix: Water**
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1700**	**D2**	400	100	mg/L			10/30/20 00:56	200
Fluoride	**1.1**	**D1**	0.80	0.095	mg/L			10/30/20 00:38	2
Nitrate Nitrite as N	**3.2**	**D1**	0.25	0.11	mg/L			10/29/20 14:54	5
Sulfate	**3400**	**D2**	400	85	mg/L			10/30/20 00:56	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 06:02	1
Lithium	**0.33**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:14	1
Boron	**0.43**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 06:02	1
Calcium	**450**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 06:02	1
Iron	**0.11**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 06:02	1
Manganese	**0.56**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 06:02	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:46	2
Arsenic	**0.0089**	**D1**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:46	2
Barium	**0.0071**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:46	2
Cadmium	**0.000066**	**D1 E4**	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:46	2
Chromium	**0.11**	**D1**	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:46	2
Cobalt	**0.00060**	**D1 E4**	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:46	2

Client Sample ID: CH-CCR-W309-1020

Lab Sample ID: 550-151758-29

Date Collected: 10/24/20 10:10
Date Received: 10/26/20 14:25
Matrix: Water

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	D1 E8	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:46	2
Molybdenum	**0.017**	**D1**	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:46	2
Selenium	**0.21**	**B3 D1**	0.0010	0.00015	mg/L		11/02/20 10:09	11/20/20 17:46	2
Thallium	**0.000052**	**D1 E4**	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:46	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:54	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**7100**	**D2**	100	100	mg/L			10/28/20 09:27	1
pH	**7.2**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**9.1**	**H5**	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:44	1
Total Organic Carbon	**0.47**	**E4**	0.50	0.26	mg/L			10/28/20 17:44	1

Client Sample ID: CH-CCR-W309-1020

Lab Sample ID: 550-151758-30

Date Collected: 10/24/20 10:10
Date Received: 10/26/20 14:25
Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.038**	**E4**	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 21:11	1
Manganese	**0.55**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 21:11	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0093**		0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:12	2
Cobalt	**0.00038**	**D1 E4**	0.0010	0.00013	mg/L		11/02/20 10:09	11/12/20 22:32	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**0.54**		0.50	0.26	mg/L			10/27/20 18:07	1
Dissolved Organic Carbon - Duplicate	**0.54**		0.50	0.26	mg/L			10/27/20 18:07	1
Dissolved Organic Carbon - Quad	**0.54**		0.50	0.26	mg/L			10/27/20 18:07	1

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-31

Date Collected: 10/23/20 11:17
Date Received: 10/26/20 14:25
Matrix: Water

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**2800**	**D2**	400	100	mg/L			10/30/20 02:10	200
Fluoride	**0.90**	**D1**	0.80	0.095	mg/L			10/30/20 01:52	2
Nitrate Nitrite as N	**4.5**	**D1**	0.25	0.11	mg/L			10/29/20 16:44	5
Sulfate	**2400**	**D2**	400	85	mg/L			10/30/20 02:10	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 06:06	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-31
Date Collected: 10/23/20 11:17
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	0.31		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:17	1
Boron	1.2		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 06:06	1
Calcium	790		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 06:06	1
Iron	0.058	E4	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 06:06	1
Manganese	0.082		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 06:06	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:48	2
Arsenic	0.0019	D1	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:48	2
Barium	0.011	D1	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:48	2
Cadmium	0.00031	D1	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:48	2
Chromium	0.0091	D1	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:48	2
Cobalt	0.024	D1	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:48	2
Lead	0.00058	D1 E4	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:48	2
Molybdenum	0.011	D1	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:48	2
Selenium	0.0020	D1	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 13:05	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:48	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:56	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	7200	D2	100	100	mg/L			10/28/20 09:27	1
pH	7.2	H5	1.7		SU			11/04/20 16:10	1
Temperature	8.6	H5	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:50	1
Total Organic Carbon	0.95		0.50	0.26	mg/L			10/28/20 17:58	1

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-32
Date Collected: 10/23/20 11:17
Matrix: Water
Date Received: 10/26/20 14:25

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	0.040	E4	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 21:15	1
Manganese	0.082		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 21:15	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0016	D1 E4	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 10:59	4
Cobalt	0.025	D1	0.0010	0.00013	mg/L		10/27/20 06:29	11/09/20 20:37	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	0.98		0.50	0.26	mg/L			10/28/20 12:02	1
Dissolved Organic Carbon - Duplicate	0.98		0.50	0.26	mg/L			10/28/20 12:02	1
Dissolved Organic Carbon - Quad	0.98		0.50	0.26	mg/L			10/28/20 12:02	1

Client Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W317-1020

Lab Sample ID: 550-151758-33
Date Collected: 10/21/20 11:27
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**1500**	**D2**	400	100	mg/L			10/30/20 01:33	200
Fluoride	**0.36**	**D1 D5 E4**	0.80	0.095	mg/L			10/30/20 01:15	2
Sulfate	**680**	**D2**	400	85	mg/L			10/30/20 01:33	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	**0.00010**	**E4**	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 03:01	1
Lithium	**0.064**		0.020	0.0091	mg/L		11/23/20 08:09	11/23/20 16:37	1
Boron	**0.20**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 03:01	1
Calcium	**350**	**M3**	2.0	0.013	mg/L		10/29/20 11:02	11/06/20 03:01	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0040	0.00017	mg/L		11/02/20 10:09	11/20/20 17:54	2
Arsenic	**0.0046**	**D1**	0.0020	0.00099	mg/L		11/02/20 10:09	11/20/20 17:54	2
Barium	**0.036**	**D1**	0.0020	0.0010	mg/L		11/02/20 10:09	11/20/20 17:54	2
Cadmium	ND	D1 E8	0.00040	0.000092	mg/L		11/02/20 10:09	11/20/20 17:54	2
Chromium	**0.0079**	**D1**	0.0040	0.0017	mg/L		11/02/20 10:09	11/20/20 17:54	2
Cobalt	**0.00073**	**D1 E4**	0.0020	0.00025	mg/L		11/02/20 10:09	11/20/20 17:54	2
Lead	ND	D1 E8	0.0020	0.00088	mg/L		11/02/20 10:09	11/20/20 17:54	2
Molybdenum	**0.0041**	**D1**	0.0020	0.00081	mg/L		11/02/20 10:09	11/20/20 17:54	2
Selenium	**0.0028**	**D1**	0.0020	0.00030	mg/L		11/02/20 10:09	11/30/20 13:12	2
Thallium	ND	D1 E8	0.00040	0.000053	mg/L		11/02/20 10:09	11/20/20 17:54	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:33	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**3500**	**D2**	100	100	mg/L			10/27/20 08:45	1
pH	**7.6**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**9.6**	**H5**	0.1		Degrees C			11/04/20 16:10	1

Client Sample ID: CH-CCR-FD04-1020

Lab Sample ID: 550-151758-34
Date Collected: 10/23/20 15:20
Matrix: Water
Date Received: 10/26/20 14:25

Method: 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	**3100**		400	100	mg/L			10/29/20 22:29	200
Fluoride	**0.49**	**D1 D5 E4**	0.80	0.095	mg/L			10/29/20 22:11	2
Nitrate Nitrite as N	ND	D1 D5 E8	0.25	0.11	mg/L			10/29/20 17:12	5
Sulfate	**2800**		400	85	mg/L			10/29/20 22:29	200

Method: 200.7 Rev 4.4 - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 06:10	1
Lithium	**0.26**		0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 19:21	1
Boron	**2.5**		0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 06:10	1
Calcium	**790**		2.0	0.013	mg/L		10/29/20 11:02	11/06/20 06:10	1

Client Sample ID: CH-CCR-FD04-1020

Lab Sample ID: 550-151758-34

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.18**		0.10	0.010	mg/L		10/29/20 11:02	11/06/20 06:10	1
Manganese	**0.042**		0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 06:10	1

Method: 200.8 LL - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	D1 E8	0.0020	0.000087	mg/L		11/02/20 10:09	11/20/20 17:50	2
Arsenic	**0.0014**	**D1**	0.0010	0.00049	mg/L		11/02/20 10:09	11/20/20 17:50	2
Barium	**0.013**	**D1**	0.0010	0.00052	mg/L		11/02/20 10:09	11/20/20 17:50	2
Cadmium	**0.00056**	**D1**	0.00020	0.000046	mg/L		11/02/20 10:09	11/20/20 17:50	2
Chromium	**0.013**	**D1**	0.0020	0.00087	mg/L		11/02/20 10:09	11/20/20 17:50	2
Cobalt	**0.070**	**D1**	0.0010	0.00013	mg/L		11/02/20 10:09	11/20/20 17:50	2
Lead	**0.0011**	**D1**	0.0010	0.00044	mg/L		11/02/20 10:09	11/20/20 17:50	2
Molybdenum	**0.017**	**D1**	0.0010	0.00040	mg/L		11/02/20 10:09	11/20/20 17:50	2
Selenium	**0.0024**	**D1**	0.0010	0.00015	mg/L		11/02/20 10:09	11/30/20 13:07	2
Thallium	ND	D1 E8	0.00020	0.000026	mg/L		11/02/20 10:09	11/20/20 17:50	2

Method: 245.1 - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:57	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	**8000**	**D2**	100	100	mg/L			10/28/20 09:27	1
pH	**7.3**	**H5**	1.7		SU			11/04/20 16:10	1
Temperature	**9.1**	**H5**	0.1		Degrees C			11/04/20 16:10	1
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 15:57	1
Total Organic Carbon	**1.1**	**M2**	0.50	0.26	mg/L			10/28/20 19:12	1

Client Sample ID: CH-CCR-FD04-1020

Lab Sample ID: 550-151758-35

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25

Matrix: Water

Method: 200.7 Rev 4.4 - Metals (ICP) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**0.17**		0.10	0.010	mg/L		10/28/20 09:43	11/06/20 20:07	1
Manganese	**0.041**		0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 20:07	1

Method: 200.8 LL - Metals (ICP/MS) - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	**0.0020**	**D1**	0.0020	0.00099	mg/L		10/27/20 06:29	11/20/20 11:01	4
Cobalt	**0.074**	**D1**	0.0010	0.00013	mg/L		10/27/20 06:29	11/09/20 20:39	2

General Chemistry - Dissolved

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	**1.2**		0.50	0.26	mg/L			10/27/20 18:30	1
Dissolved Organic Carbon - Duplicate	**1.2**		0.50	0.26	mg/L			10/27/20 18:30	1
Dissolved Organic Carbon - Quad	**1.2**		0.50	0.26	mg/L			10/27/20 18:30	1

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 550-224067/2
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			10/28/20 14:45	1
Fluoride	ND	E8	0.40	0.047	mg/L			10/28/20 14:45	1
Sulfate	ND	E8	2.0	0.43	mg/L			10/28/20 14:45	1

Lab Sample ID: LCS 550-224067/5
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	20.0	21.4		mg/L		107	90 - 110
Fluoride	4.00	4.08		mg/L		102	90 - 110
Sulfate	20.0	20.6		mg/L		103	90 - 110

Lab Sample ID: LCSD 550-224067/6
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	20.0	21.5		mg/L		107	90 - 110	0	20
Fluoride	4.00	4.07		mg/L		102	90 - 110	0	20
Sulfate	20.0	20.6		mg/L		103	90 - 110	0	20

Lab Sample ID: 550-151754-E-21 MS ^2
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Fluoride	6.0	D1	8.00	14.2	D1	mg/L		103	80 - 120

Lab Sample ID: 550-151754-E-21 MS ^200
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	4900	D2 M1	4000	9730	D2	mg/L		120	80 - 120
Sulfate	2800	D2	4000	7310	D2	mg/L		114	80 - 120

Lab Sample ID: 550-151754-E-21 MSD ^2
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Fluoride	6.0	D1	8.00	14.2	D1	mg/L		103	80 - 120	0	20

Lab Sample ID: 550-151754-E-21 MSD ^200
Matrix: Water
Analysis Batch: 224067
Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	4900	D2 M1	4000	9820	D2 M1	mg/L		122	80 - 120	1	20

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-151754-E-21 MSD ^200
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224067

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Sulfate	2800	D2	4000	7360	D2	mg/L		115	80 - 120	1	20

Lab Sample ID: MB 550-224068/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224068

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			10/28/20 14:18	1

Lab Sample ID: LCS 550-224068/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224068

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.42		mg/L		105	90 - 110

Lab Sample ID: LCSD 550-224068/6
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224068

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	8.00	8.44		mg/L		106	90 - 110	0	20

Lab Sample ID: 550-151758-1 MS
Client Sample ID: CH-CCR-M52-1020
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224068

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	37.8	D1	mg/L		95	80 - 120

Lab Sample ID: 550-151758-1 MSD
Client Sample ID: CH-CCR-M52-1020
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224068

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	ND	E8 D1 D5	40.0	38.8	D1	mg/L		97	80 - 120	3	20

Lab Sample ID: MB 550-224208/2
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224208

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate Nitrite as N	ND	E8	0.050	0.021	mg/L			10/29/20 12:37	1

Lab Sample ID: LCS 550-224208/5
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224208

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	8.00	8.75		mg/L		109	90 - 110

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCSD 550-224208/6
Matrix: Water
Analysis Batch: 224208

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N			8.00	8.77		mg/L		110	90 - 110	0	20

Lab Sample ID: 550-151758-29 MS
Matrix: Water
Analysis Batch: 224208

Client Sample ID: CH-CCR-W309-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Nitrate Nitrite as N	3.2	D1	40.0	44.4	D1	mg/L		103	80 - 120

Lab Sample ID: 550-151758-29 MSD
Matrix: Water
Analysis Batch: 224208

Client Sample ID: CH-CCR-W309-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Nitrate Nitrite as N	3.2	D1	40.0	48.2	D1	mg/L		113	80 - 120	8	20

Lab Sample ID: MB 550-224210/2
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND	E8	2.0	0.52	mg/L			10/29/20 13:06	1
Fluoride	ND	E8	0.40	0.047	mg/L			10/29/20 13:06	1
Sulfate	ND	E8	2.0	0.43	mg/L			10/29/20 13:06	1

Lab Sample ID: LCS 550-224210/5
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride			20.0	21.3		mg/L		106	90 - 110
Fluoride			4.00	4.07		mg/L		102	90 - 110
Sulfate			20.0	20.3		mg/L		102	90 - 110

Lab Sample ID: LCSD 550-224210/6
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride			20.0	22.0		mg/L		110	90 - 110	3	20
Fluoride			4.00	4.19		mg/L		105	90 - 110	3	20
Sulfate			20.0	21.1		mg/L		106	90 - 110	4	20

Lab Sample ID: 550-151757-A-5 MS ^50
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloride	2300	D2 M2	1000	2500	D2 M2	mg/L		18	80 - 120
Fluoride	3.7	E4 D1 D5	200	204	D1	mg/L		100	80 - 120

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: 550-151757-A-5 MS ^50
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Sulfate	570	D2	1000	1400	D2	mg/L		82	80 - 120

Lab Sample ID: 550-151757-A-5 MSD ^50
Matrix: Water
Analysis Batch: 224210

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chloride	2300	D2 M2	1000	2560	D2 M2	mg/L		24	80 - 120	2	20
Fluoride	3.7	E4 D1 D5	200	213	D1	mg/L		105	80 - 120	4	20
Sulfate	570	D2	1000	1450	D2	mg/L		87	80 - 120	4	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: MB 550-223989/1-A
Matrix: Water
Analysis Batch: 224991

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223989

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND	E8	0.10	0.010	mg/L		10/28/20 09:43	11/06/20 19:48	1
Manganese	0.000470	E4	0.010	0.00019	mg/L		10/28/20 09:43	11/06/20 19:48	1

Lab Sample ID: LCS 550-223989/2-A
Matrix: Water
Analysis Batch: 224991

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223989

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	1.00	0.998		mg/L		100	85 - 115
Manganese	1.00	1.01		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-223989/3-A
Matrix: Water
Analysis Batch: 224991

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 223989

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	1.00	1.01		mg/L		101	85 - 115	1	20
Manganese	1.00	1.01		mg/L		101	85 - 115	0	20

Lab Sample ID: MB 550-224142/1-A
Matrix: Water
Analysis Batch: 224878

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Beryllium	ND	E8	0.0010	0.000067	mg/L		10/29/20 11:02	11/06/20 02:42	1
Boron	ND	E8	0.050	0.0025	mg/L		10/29/20 11:02	11/06/20 02:42	1
Calcium	0.0191	E4	2.0	0.013	mg/L		10/29/20 11:02	11/06/20 02:42	1
Iron	ND	E8	0.10	0.010	mg/L		10/29/20 11:02	11/06/20 02:42	1
Manganese	ND	E8	0.010	0.00019	mg/L		10/29/20 11:02	11/06/20 02:42	1

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: MB 550-224142/1-A
Matrix: Water
Analysis Batch: 225520
Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224142

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Boron	ND		0.050		mg/L		10/29/20 11:02	11/12/20 20:32	1
Calcium	ND		2.0		mg/L		10/29/20 11:02	11/12/20 20:32	1

Lab Sample ID: LCS 550-224142/2-A
Matrix: Water
Analysis Batch: 224878
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	1.00	0.983		mg/L		98	85 - 115
Boron	1.00	1.01		mg/L		101	85 - 115
Calcium	21.0	20.7		mg/L		98	85 - 115
Iron	1.00	0.949		mg/L		95	85 - 115
Manganese	1.00	1.06		mg/L		106	85 - 115

Lab Sample ID: LCS 550-224142/2-A
Matrix: Water
Analysis Batch: 225520
Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224142

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	1.00	1.07		mg/L		107	85 - 115
Calcium	21.0	23.4		mg/L		112	85 - 115

Lab Sample ID: LCSD 550-224142/3-A
Matrix: Water
Analysis Batch: 224878
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 224142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	1.00	0.996		mg/L		100	85 - 115	1	20
Boron	1.00	1.01		mg/L		101	85 - 115	0	20
Calcium	21.0	20.9		mg/L		100	85 - 115	1	20
Iron	1.00	0.968		mg/L		97	85 - 115	2	20
Manganese	1.00	1.06		mg/L		106	85 - 115	0	20

Lab Sample ID: LCSD 550-224142/3-A
Matrix: Water
Analysis Batch: 225520
Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 224142

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	1.00	1.07		mg/L		107	85 - 115	0	20
Calcium	21.0	23.3		mg/L		111	85 - 115	1	20

Lab Sample ID: 550-151758-33 MS
Matrix: Water
Analysis Batch: 224878
Client Sample ID: CH-CCR-W317-1020
Prep Type: Total/NA
Prep Batch: 224142

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Beryllium	0.00010	E4	1.00	1.05		mg/L		105	70 - 130
Boron	0.20		1.00	1.24		mg/L		104	70 - 130
Calcium	350	M3	21.0	356	M3	mg/L		44	70 - 130
Iron	4.7		1.00	5.59	M3	mg/L		86	70 - 130

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-151758-33 MS | **Client Sample ID: CH-CCR-W317-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 224878 | **Prep Batch: 224142**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Manganese	2.6		1.00	3.51		mg/L		93	70 - 130

Lab Sample ID: 550-151758-33 MS | **Client Sample ID: CH-CCR-W317-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 225520 | **Prep Batch: 224142**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Boron	0.21		1.00	1.33		mg/L		112	70 - 130
Calcium	380	M3	21.0	398	M3	mg/L		63	70 - 130

Lab Sample ID: 550-151758-33 MSD | **Client Sample ID: CH-CCR-W317-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 224878 | **Prep Batch: 224142**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Beryllium	0.00010	E4	1.00	1.07		mg/L		107	70 - 130	2	20
Boron	0.20		1.00	1.23		mg/L		103	70 - 130	1	20
Calcium	350	M3	21.0	360	M3	mg/L		64	70 - 130	1	20
Iron	4.7		1.00	5.66	M3	mg/L		93	70 - 130	1	20
Manganese	2.6		1.00	3.48		mg/L		90	70 - 130	1	20

Lab Sample ID: 550-151758-33 MSD | **Client Sample ID: CH-CCR-W317-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 225520 | **Prep Batch: 224142**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Boron	0.21		1.00	1.32		mg/L		110	70 - 130	1	20
Calcium	380	M3	21.0	399	M3	mg/L		68	70 - 130	0	20

Lab Sample ID: MB 280-516897/1-A | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 517283 | **Prep Batch: 516897**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 16:15	1

Lab Sample ID: LCS 280-516897/2-A | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 517283 | **Prep Batch: 516897**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	0.995		mg/L		99	90 - 112

Lab Sample ID: 550-151948-D-21-B MS | **Client Sample ID: Matrix Spike**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 517283 | **Prep Batch: 516897**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.013	E4	1.00	1.00		mg/L		99	70 - 130

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.7 Rev 4.4 - Metals (ICP) (Continued)

Lab Sample ID: 550-151948-D-21-C MSD
Matrix: Water
Analysis Batch: 517283

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 516897

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.013	E4	1.00	0.997		mg/L		98	70 - 130	1	20

Lab Sample ID: MB 280-516898/1-A
Matrix: Water
Analysis Batch: 517283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 516898

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/17/20 15:45	11/18/20 18:20	1

Lab Sample ID: LCS 280-516898/2-A
Matrix: Water
Analysis Batch: 517283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 516898

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.03		mg/L		103	90 - 112

Lab Sample ID: 550-151758-15 MS
Matrix: Water
Analysis Batch: 517283

Client Sample ID: CH-CCR-W303-1020
Prep Type: Total/NA
Prep Batch: 516898

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	0.32		1.00	1.41		mg/L		109	70 - 130

Lab Sample ID: 550-151758-15 MSD
Matrix: Water
Analysis Batch: 517283

Client Sample ID: CH-CCR-W303-1020
Prep Type: Total/NA
Prep Batch: 516898

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	0.32		1.00	1.39		mg/L		108	70 - 130	1	20

Lab Sample ID: MB 280-517511/1-A
Matrix: Water
Analysis Batch: 517950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 517511

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lithium	ND	E8	0.020	0.0091	mg/L		11/23/20 08:09	11/23/20 16:27	1

Lab Sample ID: LCS 280-517511/2-A
Matrix: Water
Analysis Batch: 517950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 517511

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Lithium	1.00	1.01		mg/L		101	90 - 112

Lab Sample ID: LCSD 280-517511/3-A
Matrix: Water
Analysis Batch: 517950

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 517511

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Lithium	1.00	1.00		mg/L		100	90 - 112	0	20

Method: 200.7 Rev 4.4 - Metals (ICP)

Lab Sample ID: 550-151758-35 MS
Matrix: Water
Analysis Batch: 224991

Client Sample ID: CH-CCR-FD04-1020
Prep Type: Dissolved
Prep Batch: 223989

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Iron	0.17		1.00	1.24		mg/L		107	70 - 130
Manganese	0.041		1.00	1.03		mg/L		99	70 - 130

Lab Sample ID: 550-151758-35 MSD
Matrix: Water
Analysis Batch: 224991

Client Sample ID: CH-CCR-FD04-1020
Prep Type: Dissolved
Prep Batch: 223989

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Iron	0.17		1.00	1.26		mg/L		109	70 - 130	2	20
Manganese	0.041		1.00	1.04		mg/L		100	70 - 130	1	20

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-223800/1-A
Matrix: Water
Analysis Batch: 226148

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223800

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		10/27/20 06:29	11/20/20 10:11	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		10/27/20 06:29	11/20/20 10:11	1

Lab Sample ID: LCS 550-223800/2-A
Matrix: Water
Analysis Batch: 226148

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223800

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.0989		mg/L		99	85 - 115
Cobalt	0.100	0.0993		mg/L		99	85 - 115

Lab Sample ID: LCSD 550-223800/3-A
Matrix: Water
Analysis Batch: 226148

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 223800

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.102		mg/L		102	85 - 115	3	20
Cobalt	0.100	0.102		mg/L		102	85 - 115	2	20

Lab Sample ID: MB 550-224433/1-A
Matrix: Water
Analysis Batch: 225482

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.0000580	E4	0.0010	0.000043	mg/L		11/02/20 10:09	11/12/20 22:22	1
Cadmium	ND	E8	0.00010	0.000023	mg/L		11/02/20 10:09	11/12/20 22:22	1
Chromium	ND	E8	0.0010	0.00043	mg/L		11/02/20 10:09	11/12/20 22:22	1
Cobalt	ND	E8	0.00050	0.000063	mg/L		11/02/20 10:09	11/12/20 22:22	1
Lead	ND	E8	0.00050	0.00022	mg/L		11/02/20 10:09	11/12/20 22:22	1
Molybdenum	ND	E8	0.00050	0.00020	mg/L		11/02/20 10:09	11/12/20 22:22	1
Selenium	ND	E8	0.00050	0.000074	mg/L		11/02/20 10:09	11/12/20 22:22	1
Thallium	ND	E8	0.00010	0.000013	mg/L		11/02/20 10:09	11/12/20 22:22	1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-224433/1-A
Matrix: Water
Analysis Batch: 226262

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224433

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND	E8	0.00050	0.00025	mg/L		11/02/20 10:09	11/20/20 17:02	1
Barium	ND	E8	0.00050	0.00026	mg/L		11/02/20 10:09	11/20/20 17:02	1

Lab Sample ID: LCS 550-224433/2-A
Matrix: Water
Analysis Batch: 225482

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.100	0.0963		mg/L		96	85 - 115
Cadmium	0.100	0.0972		mg/L		97	85 - 115
Chromium	0.100	0.0970		mg/L		97	85 - 115
Cobalt	0.100	0.0981		mg/L		98	85 - 115
Lead	0.100	0.102		mg/L		102	85 - 115
Molybdenum	0.100	0.0960		mg/L		96	85 - 115
Selenium	0.100	0.104		mg/L		104	85 - 115
Thallium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCS 550-224433/2-A
Matrix: Water
Analysis Batch: 226262

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224433

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.100	0.100		mg/L		100	85 - 115
Barium	0.100	0.113		mg/L		113	85 - 115

Lab Sample ID: LCSD 550-224433/3-A
Matrix: Water
Analysis Batch: 225482

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 224433

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.100	0.0966		mg/L		97	85 - 115	0	20
Cadmium	0.100	0.0976		mg/L		98	85 - 115	0	20
Chromium	0.100	0.0967		mg/L		97	85 - 115	0	20
Cobalt	0.100	0.0994		mg/L		99	85 - 115	1	20
Lead	0.100	0.101		mg/L		101	85 - 115	1	20
Molybdenum	0.100	0.0969		mg/L		97	85 - 115	1	20
Selenium	0.100	0.106		mg/L		106	85 - 115	2	20
Thallium	0.100	0.101		mg/L		101	85 - 115	1	20

Lab Sample ID: LCSD 550-224433/3-A
Matrix: Water
Analysis Batch: 226262

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 224433

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.100	0.101		mg/L		101	85 - 115	1	20
Barium	0.100	0.113		mg/L		113	85 - 115	1	20

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-151758-2 MS
Matrix: Water
Analysis Batch: 226148

Client Sample ID: CH-CCR-M52-1020
Prep Type: Dissolved
Prep Batch: 223800

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0016	E4 D1	0.100	0.112		mg/L		110	70 - 130
Cobalt	0.070	D1	0.100	0.177		mg/L		107	70 - 130

Lab Sample ID: 550-151758-2 MSD
Matrix: Water
Analysis Batch: 226148

Client Sample ID: CH-CCR-M52-1020
Prep Type: Dissolved
Prep Batch: 223800

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0016	E4 D1	0.100	0.113		mg/L		111	70 - 130	1	20
Cobalt	0.070	D1	0.100	0.176		mg/L		106	70 - 130	0	20

Lab Sample ID: 550-151758-30 MS
Matrix: Water
Analysis Batch: 225482

Client Sample ID: CH-CCR-W309-1020
Prep Type: Dissolved
Prep Batch: 224433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	0.22	E4 M2 D1	0.100	0.0981	M2	mg/L		-118	70 - 130
Cadmium	0.14	E4 M2 D1	0.100	0.0927	M2	mg/L		-49	70 - 130
Chromium	5.9	M3 D1	0.100	0.105	M3	mg/L		-5821	70 - 130
Cobalt	0.00038	E4 D1	0.100	0.0980		mg/L		98	70 - 130
Lead	ND	E8 D1	0.100	0.0978		mg/L		98	70 - 130
Molybdenum	7.9	M3 D1	0.100	0.107	M3	mg/L		-7771	70 - 130
Selenium	200	B3 M3 D1	0.100	0.309	M3	mg/L		-201507	70 - 130
Thallium	0.23	M2 D1	0.100	0.0963	M2	mg/L		-132	70 - 130

Lab Sample ID: 550-151758-30 MS
Matrix: Water
Analysis Batch: 226262

Client Sample ID: CH-CCR-W309-1020
Prep Type: Dissolved
Prep Batch: 224433

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.0093		0.100	0.123		mg/L		114	70 - 130
Barium	7.6	M3	0.100	0.134	M3	mg/L		-7492	70 - 130

Lab Sample ID: 550-151758-30 MSD
Matrix: Water
Analysis Batch: 225482

Client Sample ID: CH-CCR-W309-1020
Prep Type: Dissolved
Prep Batch: 224433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	0.22	E4 M2 D1	0.100	0.101	M2	mg/L		-115	70 - 130	3	20
Cadmium	0.14	E4 M2 D1	0.100	0.0922	M2	mg/L		-50	70 - 130	1	20
Chromium	5.9	M3 D1	0.100	0.0956	M3	mg/L		-5830	70 - 130	9	20
Cobalt	0.00038	E4 D1	0.100	0.0905		mg/L		90	70 - 130	8	20
Lead	ND	E8 D1	0.100	0.0964		mg/L		96	70 - 130	1	20
Molybdenum	7.9	M3 D1	0.100	0.108	M3	mg/L		-7770	70 - 130	1	20
Selenium	200	B3 M3 D1	0.100	0.287	M3	mg/L		-201529	70 - 130	7	20
Thallium	0.23	M2 D1	0.100	0.0948	M2	mg/L		-133	70 - 130	2	20

Eurofins TestAmerica, Phoenix

Method: 200.8 LL - Metals (ICP/MS) (Continued)

Lab Sample ID: 550-151758-30 MSD
Matrix: Water
Analysis Batch: 226262

Client Sample ID: CH-CCR-W309-1020
Prep Type: Dissolved
Prep Batch: 224433

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	0.0093		0.100	0.120		mg/L		111	70 - 130	3	20
Barium	7.6	M3	0.100	0.131	M3	mg/L		-7495	70 - 130	2	20

Method: 245.1 - Mercury (CVAA)

Lab Sample ID: MB 550-223922/1-A
Matrix: Water
Analysis Batch: 224045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 223922

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/27/20 18:23	10/28/20 15:06	1

Lab Sample ID: LCS 550-223922/2-A
Matrix: Water
Analysis Batch: 224045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 223922

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00475		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-223922/3-A
Matrix: Water
Analysis Batch: 224045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 223922

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00501		mg/L		100	85 - 115	5	20

Lab Sample ID: 550-151756-B-1-B MS
Matrix: Water
Analysis Batch: 224045

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 223922

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00508		mg/L		102	70 - 130

Lab Sample ID: 550-151756-B-1-C MSD
Matrix: Water
Analysis Batch: 224045

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 223922

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00496		mg/L		99	70 - 130	2	20

Lab Sample ID: MB 550-224052/1-A
Matrix: Water
Analysis Batch: 224200

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 224052

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	ND	E8	0.00020	0.000060	mg/L		10/28/20 18:28	10/29/20 17:26	1

QC Sample Results

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: 245.1 - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 550-224052/2-A
Matrix: Water
Analysis Batch: 224200

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 224052

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	0.00500	0.00498		mg/L		100	85 - 115

Lab Sample ID: LCSD 550-224052/3-A
Matrix: Water
Analysis Batch: 224200

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 224052

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	0.00500	0.00508		mg/L		102	85 - 115	2	20

Lab Sample ID: 550-151754-G-8-C MS
Matrix: Water
Analysis Batch: 224200

Client Sample ID: Matrix Spike
Prep Type: Total/NA
Prep Batch: 224052

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Hg	ND	E8	0.00500	0.00486		mg/L		97	70 - 130

Lab Sample ID: 550-151754-G-8-D MSD
Matrix: Water
Analysis Batch: 224200

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA
Prep Batch: 224052

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Hg	ND	E8	0.00500	0.00487		mg/L		97	70 - 130	0	20

Method: SM 2540C - Solids, Total Dissolved (TDS)

Lab Sample ID: MB 550-223835/1
Matrix: Water
Analysis Batch: 223835

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			10/27/20 08:45	1

Lab Sample ID: LCS 550-223835/2
Matrix: Water
Analysis Batch: 223835

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	970		mg/L		97	90 - 110

Lab Sample ID: LCSD 550-223835/3
Matrix: Water
Analysis Batch: 223835

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	954		mg/L		95	90 - 110	2	10

Method: SM 2540C - Solids, Total Dissolved (TDS) (Continued)

Lab Sample ID: 550-151758-33 DU | **Client Sample ID: CH-CCR-W317-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223835

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	3500	D2	3420	D2	mg/L		2	10

Lab Sample ID: MB 550-223980/1 | **Client Sample ID: Method Blank**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223980

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND	E8	20	20	mg/L			10/28/20 09:27	1

Lab Sample ID: LCS 550-223980/2 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223980

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Dissolved Solids	1000	960		mg/L		96	90 - 110

Lab Sample ID: LCSD 550-223980/3 | **Client Sample ID: Lab Control Sample Dup**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223980

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Dissolved Solids	1000	954		mg/L		95	90 - 110	1	10

Lab Sample ID: 550-151758-5 DU | **Client Sample ID: CH-CCR-M55-1020**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223980

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	11000	D2	10700	D2	mg/L		0.2	10

Lab Sample ID: 550-151796-A-1 DU | **Client Sample ID: Duplicate**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 223980

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Total Dissolved Solids	1300		1250		mg/L		2	10

Method: SM 4500 H+ B - pH

Lab Sample ID: LCSSRM 550-224480/1 | **Client Sample ID: Lab Control Sample**
Matrix: Water | **Prep Type: Total/NA**
Analysis Batch: 224480

Analyte	Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits
pH	7.00	7.0		SU		100.3	98.5 - 101.5

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 4500 H+ B - pH (Continued)

Lab Sample ID: LCSSRM 550-224480/13
Matrix: Water
Analysis Batch: 224480

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.1		SU		101.3	98.5 - 101.5		

Lab Sample ID: 550-151754-A-18 DU
Matrix: Water
Analysis Batch: 224480

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.5	H5		7.5	H5	SU				0.3	5
Temperature	7.9	H5		7.3	H5	Degrees C				8	

Lab Sample ID: LCSSRM 550-224675/1
Matrix: Water
Analysis Batch: 224675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.3	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-224675/13
Matrix: Water
Analysis Batch: 224675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		99.7	98.5 - 101.5		

Lab Sample ID: LCSSRM 550-224675/25
Matrix: Water
Analysis Batch: 224675

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCSSRM Result	LCSSRM Qualifier	Unit	D	%Rec	%Rec. Limits		
pH			7.00	7.0		SU		100.3	98.5 - 101.5		

Lab Sample ID: 550-151758-5 DU
Matrix: Water
Analysis Batch: 224675

Client Sample ID: CH-CCR-M55-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.4	H5		7.4	H5	SU				0	5
Temperature	6.3	H5		6.5	H5	Degrees C				3	

Lab Sample ID: 550-151758-25 DU
Matrix: Water
Analysis Batch: 224675

Client Sample ID: CH-CCR-W307-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
pH	7.2	H5		7.1	H5	SU				0.4	5
Temperature	9.5	H5		9.3	H5	Degrees C				2	

Method: SM 4500 NH3 D - Ammonia

Lab Sample ID: MB 550-224972/4
Matrix: Water
Analysis Batch: 224972

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND	E8	0.50	0.28	mg/L			11/07/20 12:37	1

Lab Sample ID: LCS 550-224972/5
Matrix: Water
Analysis Batch: 224972

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	25.0	22.3		mg/L		89	80 - 120

Lab Sample ID: LCSD 550-224972/6
Matrix: Water
Analysis Batch: 224972

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	25.0	24.6		mg/L		99	80 - 120	10	20

Lab Sample ID: 550-151843-C-1 MS
Matrix: Water
Analysis Batch: 224972

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Ammonia	1.6		25.0	23.5		mg/L		88	80 - 120

Lab Sample ID: 550-151843-C-1 MSD
Matrix: Water
Analysis Batch: 224972

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Ammonia	1.6		25.0	24.0		mg/L		89	80 - 120	2	20

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: MB 550-224082/17
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			10/28/20 12:39	1

Lab Sample ID: MB 550-224082/47
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			10/28/20 18:38	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: LCS 550-224082/18
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Duplicates	20.0	18.4		mg/L		92	90 - 110
Total Organic Carbon - Quad	20.0	18.4		mg/L		92	90 - 110

Lab Sample ID: LCS 550-224082/48
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	18.2		mg/L		91	90 - 110
Total Organic Carbon - Duplicates	20.0	18.2		mg/L		91	90 - 110
Total Organic Carbon - Quad	20.0	18.2		mg/L		91	90 - 110

Lab Sample ID: LCSD 550-224082/19
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.4		mg/L		97	90 - 110	5	20
Total Organic Carbon - Duplicates	20.0	19.4		mg/L		97	90 - 110	5	20
Total Organic Carbon - Quad	20.0	19.4		mg/L		97	90 - 110	5	20

Lab Sample ID: LCSD 550-224082/49
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.2		mg/L		96	90 - 110	5	20
Total Organic Carbon - Duplicates	20.0	19.2		mg/L		96	90 - 110	5	20
Total Organic Carbon - Quad	20.0	19.2		mg/L		96	90 - 110	5	20

Lab Sample ID: 550-151758-34 MS
Matrix: Water
Analysis Batch: 224082

Client Sample ID: CH-CCR-FD04-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110
Total Organic Carbon - Duplicates	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110
Total Organic Carbon - Quad	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110

Lab Sample ID: 550-151758-34 MSD
Matrix: Water
Analysis Batch: 224082

Client Sample ID: CH-CCR-FD04-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110	0	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-151758-34 MSD
Matrix: Water
Analysis Batch: 224082

Client Sample ID: CH-CCR-FD04-1020
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon - Duplicates	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110	0	20
Total Organic Carbon - Quad	1.1	M2	20.0	18.6	M2	mg/L		88	90 - 110	0	20

Lab Sample ID: 550-151831-A-1 MS ^10
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	6.9		200	200		mg/L		96	90 - 110
Total Organic Carbon - Duplicates	6.9		200	200		mg/L		96	90 - 110
Total Organic Carbon - Quad	6.9		200	200		mg/L		96	90 - 110

Lab Sample ID: 550-151831-A-1 MSD ^10
Matrix: Water
Analysis Batch: 224082

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.9		200	201		mg/L		97	90 - 110	1	20
Total Organic Carbon - Duplicates	6.9		200	201		mg/L		97	90 - 110	1	20
Total Organic Carbon - Quad	6.9		200	201		mg/L		97	90 - 110	1	20

Lab Sample ID: MB 550-224773/5
Matrix: Water
Analysis Batch: 224773

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			11/04/20 15:33	1

Lab Sample ID: LCS 550-224773/6
Matrix: Water
Analysis Batch: 224773

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	19.6		mg/L		98	90 - 110
Total Organic Carbon - Duplicates	20.0	19.6		mg/L		98	90 - 110
Total Organic Carbon - Quad	20.0	19.6		mg/L		98	90 - 110

Lab Sample ID: LCSD 550-224773/7
Matrix: Water
Analysis Batch: 224773

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	19.0		mg/L		95	90 - 110	3	20
Total Organic Carbon - Duplicates	20.0	19.0		mg/L		95	90 - 110	3	20
Total Organic Carbon - Quad	20.0	19.0		mg/L		95	90 - 110	3	20

Method: SM 5310B - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: 550-151831-C-1 MS ^5
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224773

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	6.1	D1	100	103	D1	mg/L		97	90 - 110
Total Organic Carbon - Duplicates	6.1	D1	100	103	D1	mg/L		97	90 - 110
Total Organic Carbon - Quad	6.1	D1	100	103	D1	mg/L		97	90 - 110

Lab Sample ID: 550-151831-C-1 MSD ^5
Client Sample ID: Matrix Spike Duplicate
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224773

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	6.1	D1	100	105	D1	mg/L		99	90 - 110	2	20
Total Organic Carbon - Duplicates	6.1	D1	100	105	D1	mg/L		99	90 - 110	2	20
Total Organic Carbon - Quad	6.1	D1	100	105	D1	mg/L		99	90 - 110	2	20

Lab Sample ID: MB 550-224894/5
Client Sample ID: Method Blank
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224894

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Organic Carbon	ND	E8	0.50	0.26	mg/L			11/05/20 17:50	1

Lab Sample ID: LCS 550-224894/6
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224894

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	20.0	20.1		mg/L		100	90 - 110
Total Organic Carbon - Duplicates	20.0	20.1		mg/L		100	90 - 110
Total Organic Carbon - Quad	20.0	20.1		mg/L		100	90 - 110

Lab Sample ID: LCSD 550-224894/7
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224894

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	20.0	20.2		mg/L		101	90 - 110	1	20
Total Organic Carbon - Duplicates	20.0	20.2		mg/L		101	90 - 110	1	20
Total Organic Carbon - Quad	20.0	20.2		mg/L		101	90 - 110	1	20

Lab Sample ID: 550-152348-A-1 MS ^5
Client Sample ID: Matrix Spike
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 224894

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Total Organic Carbon	5.9	D1	100	107	D1	mg/L		101	90 - 110
Total Organic Carbon - Duplicates	5.9	D1	100	107	D1	mg/L		101	90 - 110
Total Organic Carbon - Quad	5.9	D1	100	107	D1	mg/L		101	90 - 110

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Total (TOC)

Lab Sample ID: 550-152348-A-1 MSD ^5
Matrix: Water
Analysis Batch: 224894

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Total Organic Carbon	5.9	D1	100	106	D1	mg/L		100	90 - 110	1	20
Total Organic Carbon - Duplicates	5.9	D1	100	106	D1	mg/L		100	90 - 110	1	20
Total Organic Carbon - Quad	5.9	D1	100	106	D1	mg/L		100	90 - 110	1	20

Method: SM 5310B - Organic Carbon, Dissolved (DOC)

Lab Sample ID: MB 550-223938/34
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			10/27/20 16:18	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			10/27/20 16:18	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			10/27/20 16:18	1

Lab Sample ID: MB 550-223938/5
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			10/27/20 10:30	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			10/27/20 10:30	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			10/27/20 10:30	1

Lab Sample ID: LCS 550-223938/35
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.0		mg/L		90	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.0		mg/L		90	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.0		mg/L		90	90 - 110

Lab Sample ID: LCS 550-223938/6
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	21.1		mg/L		105	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	21.1		mg/L		105	90 - 110
Dissolved Organic Carbon - Quad	20.0	21.1		mg/L		105	90 - 110

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: LCSD 550-223938/36
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon			20.0	19.4		mg/L		97	90 - 110	7	20
Dissolved Organic Carbon - Duplicate			20.0	19.4		mg/L		97	90 - 110	7	20
Dissolved Organic Carbon - Quad			20.0	19.4		mg/L		97	90 - 110	7	20

Lab Sample ID: LCSD 550-223938/7
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon			20.0	18.7		mg/L		93	90 - 110	12	20
Dissolved Organic Carbon - Duplicate			20.0	18.7		mg/L		93	90 - 110	12	20
Dissolved Organic Carbon - Quad			20.0	18.7		mg/L		93	90 - 110	12	20

Lab Sample ID: 550-151754-B-3 MS
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	3.1	M2	20.0	17.2	M2	mg/L		70	90 - 110
Dissolved Organic Carbon - Duplicate	3.1	M2	20.0	17.2	M2	mg/L		70	90 - 110
Dissolved Organic Carbon - Quad	3.1	M2	20.0	17.2	M2	mg/L		70	90 - 110

Lab Sample ID: 550-151754-C-3 MSD
Matrix: Water
Analysis Batch: 223938

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	3.1	M2	20.0	20.2	M2	mg/L		85	90 - 110	16	20
Dissolved Organic Carbon - Duplicate	3.1	M2	20.0	20.2	M2	mg/L		85	90 - 110	16	20
Dissolved Organic Carbon - Quad	3.1	M2	20.0	20.2	M2	mg/L		85	90 - 110	16	20

Lab Sample ID: 550-151758-22 MS
Matrix: Water
Analysis Batch: 223938

Client Sample ID: CH-CCR-W305-1020
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.7	M2	20.0	19.8		mg/L		91	90 - 110
Dissolved Organic Carbon - Duplicate	1.7	M2	20.0	19.8		mg/L		91	90 - 110
Dissolved Organic Carbon - Quad	1.7	M2	20.0	19.8		mg/L		91	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-151758-22 MSD
Matrix: Water
Analysis Batch: 223938

Client Sample ID: CH-CCR-W305-1020
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.7	M2	20.0	18.8	M2	mg/L		85	90 - 110	6	20
Dissolved Organic Carbon - Duplicate	1.7	M2	20.0	18.8	M2	mg/L		85	90 - 110	6	20
Dissolved Organic Carbon - Quad	1.7	M2	20.0	18.8	M2	mg/L		85	90 - 110	6	20

Lab Sample ID: MB 550-224081/5
Matrix: Water
Analysis Batch: 224081

Client Sample ID: Method Blank
Prep Type: Dissolved

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dissolved Organic Carbon	ND	E8	0.50	0.26	mg/L			10/28/20 10:14	1
Dissolved Organic Carbon - Duplicate	ND	E8	0.50	0.26	mg/L			10/28/20 10:14	1
Dissolved Organic Carbon - Quad	ND	E8	0.50	0.26	mg/L			10/28/20 10:14	1

Lab Sample ID: LCS 550-224081/6
Matrix: Water
Analysis Batch: 224081

Client Sample ID: Lab Control Sample
Prep Type: Dissolved

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	20.0	18.2		mg/L		91	90 - 110
Dissolved Organic Carbon - Duplicate	20.0	18.2		mg/L		91	90 - 110
Dissolved Organic Carbon - Quad	20.0	18.2		mg/L		91	90 - 110

Lab Sample ID: LCSD 550-224081/7
Matrix: Water
Analysis Batch: 224081

Client Sample ID: Lab Control Sample Dup
Prep Type: Dissolved

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	20.0	19.0		mg/L		95	90 - 110	4	20
Dissolved Organic Carbon - Duplicate	20.0	19.0		mg/L		95	90 - 110	4	20
Dissolved Organic Carbon - Quad	20.0	19.0		mg/L		95	90 - 110	4	20

Lab Sample ID: 550-151754-C-7 MS
Matrix: Water
Analysis Batch: 224081

Client Sample ID: Matrix Spike
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Dissolved Organic Carbon	1.7		20.0	17.5	M2	mg/L		79	90 - 110
Dissolved Organic Carbon - Duplicate	1.7		20.0	17.5	M2	mg/L		79	90 - 110
Dissolved Organic Carbon - Quad	1.7		20.0	17.5	M2	mg/L		79	90 - 110

Method: SM 5310B - Organic Carbon, Dissolved (DOC) (Continued)

Lab Sample ID: 550-151754-D-7 MSD
Matrix: Water
Analysis Batch: 224081

Client Sample ID: Matrix Spike Duplicate
Prep Type: Dissolved

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Dissolved Organic Carbon	1.7		20.0	18.0	M2	mg/L		82	90 - 110	3	20
Dissolved Organic Carbon - Duplicate	1.7		20.0	18.0	M2	mg/L		81	90 - 110	3	20
Dissolved Organic Carbon - Quad	1.7		20.0	18.0	M2	mg/L		82	90 - 110	3	20

HPLC/IC

Analysis Batch: 224067

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	300.0	
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	300.0	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	300.0	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	300.0	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	300.0	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	300.0	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	300.0	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	300.0	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	300.0	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	300.0	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	300.0	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	300.0	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	300.0	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	300.0	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	300.0	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	300.0	
MB 550-224067/2	Method Blank	Total/NA	Water	300.0	
LCS 550-224067/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-224067/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-151754-E-21 MS ^2	Matrix Spike	Total/NA	Water	300.0	
550-151754-E-21 MS ^200	Matrix Spike	Total/NA	Water	300.0	
550-151754-E-21 MSD ^2	Matrix Spike Duplicate	Total/NA	Water	300.0	
550-151754-E-21 MSD ^200	Matrix Spike Duplicate	Total/NA	Water	300.0	

Analysis Batch: 224068

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	300.0	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	300.0	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	300.0	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	300.0	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	300.0	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	300.0	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	300.0	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	300.0	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	300.0	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	300.0	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	300.0	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	300.0	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	300.0	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	300.0	
MB 550-224068/2	Method Blank	Total/NA	Water	300.0	
LCS 550-224068/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-224068/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-151758-1 MS	CH-CCR-M52-1020	Total/NA	Water	300.0	
550-151758-1 MSD	CH-CCR-M52-1020	Total/NA	Water	300.0	

Analysis Batch: 224208

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	300.0	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	300.0	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	300.0	

HPLC/IC (Continued)

Analysis Batch: 224208 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-224208/2	Method Blank	Total/NA	Water	300.0	
LCS 550-224208/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-224208/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-151758-29 MS	CH-CCR-W309-1020	Total/NA	Water	300.0	
550-151758-29 MSD	CH-CCR-W309-1020	Total/NA	Water	300.0	

Analysis Batch: 224210

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	300.0	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	300.0	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	300.0	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	300.0	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	300.0	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	300.0	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	300.0	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	300.0	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	300.0	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	300.0	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	300.0	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	300.0	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	300.0	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	300.0	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	300.0	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	300.0	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	300.0	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	300.0	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	300.0	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	300.0	
MB 550-224210/2	Method Blank	Total/NA	Water	300.0	
LCS 550-224210/5	Lab Control Sample	Total/NA	Water	300.0	
LCSD 550-224210/6	Lab Control Sample Dup	Total/NA	Water	300.0	
550-151757-A-5 MS ^50	Matrix Spike	Total/NA	Water	300.0	
550-151757-A-5 MSD ^50	Matrix Spike Duplicate	Total/NA	Water	300.0	

Metals

Prep Batch: 223800

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-2	CH-CCR-M52-1020	Dissolved	Water	200.8	
550-151758-4	CH-CCR-M53-1020	Dissolved	Water	200.8	
550-151758-6	CH-CCR-M55-1020	Dissolved	Water	200.8	
550-151758-8	CH-CCR-M69-1020	Dissolved	Water	200.8	
550-151758-10	CH-CCR-M70-1020	Dissolved	Water	200.8	
550-151758-12	CH-CCR-W301-1020	Dissolved	Water	200.8	
550-151758-14	CH-CCR-W302-1020	Dissolved	Water	200.8	
550-151758-16	CH-CCR-W303-1020	Dissolved	Water	200.8	
550-151758-18	CH-CCR-W304-1020	Dissolved	Water	200.8	
550-151758-20	CH-CCR-FD03-1020	Dissolved	Water	200.8	
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	200.8	
550-151758-24	CH-CCR-W306-1020	Dissolved	Water	200.8	
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 223800 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-28	CH-CCR-W308-1020	Dissolved	Water	200.8	
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	200.8	
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	200.8	
MB 550-223800/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-223800/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-223800/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-151758-2 MS	CH-CCR-M52-1020	Dissolved	Water	200.8	
550-151758-2 MSD	CH-CCR-M52-1020	Dissolved	Water	200.8	

Prep Batch: 223922

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	245.1	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	245.1	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	245.1	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	245.1	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	245.1	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	245.1	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	245.1	
MB 550-223922/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-223922/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-223922/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-151756-B-1-B MS	Matrix Spike	Total/NA	Water	245.1	
550-151756-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 223989

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-2	CH-CCR-M52-1020	Dissolved	Water	200.7	
550-151758-4	CH-CCR-M53-1020	Dissolved	Water	200.7	
550-151758-6	CH-CCR-M55-1020	Dissolved	Water	200.7	
550-151758-8	CH-CCR-M69-1020	Dissolved	Water	200.7	
550-151758-10	CH-CCR-M70-1020	Dissolved	Water	200.7	
550-151758-12	CH-CCR-W301-1020	Dissolved	Water	200.7	
550-151758-14	CH-CCR-W302-1020	Dissolved	Water	200.7	
550-151758-16	CH-CCR-W303-1020	Dissolved	Water	200.7	
550-151758-18	CH-CCR-W304-1020	Dissolved	Water	200.7	
550-151758-20	CH-CCR-FD03-1020	Dissolved	Water	200.7	
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	200.7	
550-151758-24	CH-CCR-W306-1020	Dissolved	Water	200.7	
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	200.7	
550-151758-28	CH-CCR-W308-1020	Dissolved	Water	200.7	
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	200.7	
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	200.7	
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	200.7	
MB 550-223989/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-223989/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-223989/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-151758-35 MS	CH-CCR-FD04-1020	Dissolved	Water	200.7	
550-151758-35 MSD	CH-CCR-FD04-1020	Dissolved	Water	200.7	

QC Association Summary

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Metals

Analysis Batch: 224045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	245.1	223922
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	245.1	223922
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	245.1	223922
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	245.1	223922
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	245.1	223922
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	245.1	223922
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	245.1	223922
MB 550-223922/1-A	Method Blank	Total/NA	Water	245.1	223922
LCS 550-223922/2-A	Lab Control Sample	Total/NA	Water	245.1	223922
LCSD 550-223922/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	223922
550-151756-B-1-B MS	Matrix Spike	Total/NA	Water	245.1	223922
550-151756-B-1-C MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	223922

Prep Batch: 224052

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	245.1	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	245.1	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	245.1	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	245.1	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	245.1	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	245.1	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	245.1	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	245.1	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	245.1	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	245.1	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	245.1	
MB 550-224052/1-A	Method Blank	Total/NA	Water	245.1	
LCS 550-224052/2-A	Lab Control Sample	Total/NA	Water	245.1	
LCSD 550-224052/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	
550-151754-G-8-C MS	Matrix Spike	Total/NA	Water	245.1	
550-151754-G-8-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	

Prep Batch: 224142

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.7	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.7	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.7	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.7	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.7	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.7	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.7	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.7	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.7	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.7	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.7	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.7	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.7	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.7	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.7	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.7	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.7	

Metals (Continued)

Prep Batch: 224142 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.7	
MB 550-224142/1-A	Method Blank	Total/NA	Water	200.7	
LCS 550-224142/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 550-224142/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	
550-151758-33 MS	CH-CCR-W317-1020	Total/NA	Water	200.7	
550-151758-33 MSD	CH-CCR-W317-1020	Total/NA	Water	200.7	

Analysis Batch: 224200

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	245.1	224052
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	245.1	224052
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	245.1	224052
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	245.1	224052
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	245.1	224052
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	245.1	224052
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	245.1	224052
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	245.1	224052
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	245.1	224052
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	245.1	224052
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	245.1	224052
MB 550-224052/1-A	Method Blank	Total/NA	Water	245.1	224052
LCS 550-224052/2-A	Lab Control Sample	Total/NA	Water	245.1	224052
LCSD 550-224052/3-A	Lab Control Sample Dup	Total/NA	Water	245.1	224052
550-151754-G-8-C MS	Matrix Spike	Total/NA	Water	245.1	224052
550-151754-G-8-D MSD	Matrix Spike Duplicate	Total/NA	Water	245.1	224052

Prep Batch: 224433

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.8	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.8	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.8	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.8	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.8	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.8	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.8	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.8	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.8	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.8	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.8	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.8	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.8	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.8	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.8	
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	200.8	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.8	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.8	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.8	
MB 550-224433/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-224433/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-224433/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-151758-30 MS	CH-CCR-W309-1020	Dissolved	Water	200.8	

Metals (Continued)

Prep Batch: 224433 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-30 MSD	CH-CCR-W309-1020	Dissolved	Water	200.8	

Analysis Batch: 224878

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.7 Rev 4.4	224142
MB 550-224142/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	224142
LCS 550-224142/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	224142
LCSD 550-224142/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-33 MS	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-33 MSD	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	224142

Analysis Batch: 224991

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-2	CH-CCR-M52-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-4	CH-CCR-M53-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-6	CH-CCR-M55-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-8	CH-CCR-M69-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-10	CH-CCR-M70-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-12	CH-CCR-W301-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-14	CH-CCR-W302-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-16	CH-CCR-W303-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-18	CH-CCR-W304-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-20	CH-CCR-FD03-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-24	CH-CCR-W306-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-28	CH-CCR-W308-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	200.7 Rev 4.4	223989
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	200.7 Rev 4.4	223989
MB 550-223989/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	223989
LCS 550-223989/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	223989
LCSD 550-223989/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	223989
550-151758-35 MS	CH-CCR-FD04-1020	Dissolved	Water	200.7 Rev 4.4	223989

Metals (Continued)

Analysis Batch: 224991 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-35 MSD	CH-CCR-FD04-1020	Dissolved	Water	200.7 Rev 4.4	223989

Analysis Batch: 225097

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	200.8 LL	223800
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	200.8 LL	223800
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	200.8 LL	223800
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	200.8 LL	223800

Analysis Batch: 225482

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.8 LL	224433
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.8 LL	224433
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.8 LL	224433
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.8 LL	224433
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.8 LL	224433
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.8 LL	224433
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.8 LL	224433
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.8 LL	224433
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433
MB 550-224433/1-A	Method Blank	Total/NA	Water	200.8 LL	224433
LCS 550-224433/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	224433
LCSD 550-224433/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	224433
550-151758-30 MS	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433
550-151758-30 MSD	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433

Analysis Batch: 225520

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-224142/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	224142
LCS 550-224142/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	224142
LCSD 550-224142/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-33 MS	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	224142
550-151758-33 MSD	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	224142

Analysis Batch: 226148

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-2	CH-CCR-M52-1020	Dissolved	Water	200.8 LL	223800
550-151758-4	CH-CCR-M53-1020	Dissolved	Water	200.8 LL	223800
550-151758-6	CH-CCR-M55-1020	Dissolved	Water	200.8 LL	223800
550-151758-8	CH-CCR-M69-1020	Dissolved	Water	200.8 LL	223800
550-151758-10	CH-CCR-M70-1020	Dissolved	Water	200.8 LL	223800
550-151758-12	CH-CCR-W301-1020	Dissolved	Water	200.8 LL	223800
550-151758-14	CH-CCR-W302-1020	Dissolved	Water	200.8 LL	223800
550-151758-16	CH-CCR-W303-1020	Dissolved	Water	200.8 LL	223800
550-151758-18	CH-CCR-W304-1020	Dissolved	Water	200.8 LL	223800
550-151758-20	CH-CCR-FD03-1020	Dissolved	Water	200.8 LL	223800
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	200.8 LL	223800
550-151758-24	CH-CCR-W306-1020	Dissolved	Water	200.8 LL	223800
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	200.8 LL	223800
550-151758-28	CH-CCR-W308-1020	Dissolved	Water	200.8 LL	223800
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	200.8 LL	223800

Metals (Continued)

Analysis Batch: 226148 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	200.8 LL	223800
MB 550-223800/1-A	Method Blank	Total/NA	Water	200.8 LL	223800
LCS 550-223800/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	223800
LCSD 550-223800/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	223800
550-151758-2 MS	CH-CCR-M52-1020	Dissolved	Water	200.8 LL	223800
550-151758-2 MSD	CH-CCR-M52-1020	Dissolved	Water	200.8 LL	223800

Analysis Batch: 226262

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.8 LL	224433
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.8 LL	224433
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.8 LL	224433
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.8 LL	224433
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.8 LL	224433
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.8 LL	224433
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.8 LL	224433
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.8 LL	224433
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.8 LL	224433
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.8 LL	224433
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.8 LL	224433
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.8 LL	224433
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.8 LL	224433
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.8 LL	224433
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.8 LL	224433
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.8 LL	224433
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.8 LL	224433
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.8 LL	224433
MB 550-224433/1-A	Method Blank	Total/NA	Water	200.8 LL	224433
LCS 550-224433/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	224433
LCSD 550-224433/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	224433
550-151758-30 MS	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433
550-151758-30 MSD	CH-CCR-W309-1020	Dissolved	Water	200.8 LL	224433

Analysis Batch: 226816

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.8 LL	224433
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.8 LL	224433
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.8 LL	224433
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.8 LL	224433
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.8 LL	224433
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.8 LL	224433
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.8 LL	224433
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.8 LL	224433
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.8 LL	224433
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.8 LL	224433

Analysis Batch: 226828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.8 LL	224433

Metals

Analysis Batch: 227373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.8 LL	224433

Prep Batch: 516897

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.7	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.7	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.7	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.7	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.7	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.7	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.7	
MB 280-516897/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-516897/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-151948-D-21-B MS	Matrix Spike	Total/NA	Water	200.7	
550-151948-D-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7	

Prep Batch: 516898

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.7	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.7	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.7	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.7	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.7	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.7	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.7	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.7	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.7	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.7	
MB 280-516898/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-516898/2-A	Lab Control Sample	Total/NA	Water	200.7	
550-151758-15 MS	CH-CCR-W303-1020	Total/NA	Water	200.7	
550-151758-15 MSD	CH-CCR-W303-1020	Total/NA	Water	200.7	

Analysis Batch: 517283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	200.7 Rev 4.4	516897
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	200.7 Rev 4.4	516898

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Metals (Continued)

Analysis Batch: 517283 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	200.7 Rev 4.4	516898
MB 280-516897/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	516897
MB 280-516898/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	516898
LCS 280-516897/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	516897
LCS 280-516898/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-15 MS	CH-CCR-W303-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151758-15 MSD	CH-CCR-W303-1020	Total/NA	Water	200.7 Rev 4.4	516898
550-151948-D-21-B MS	Matrix Spike	Total/NA	Water	200.7 Rev 4.4	516897
550-151948-D-21-C MSD	Matrix Spike Duplicate	Total/NA	Water	200.7 Rev 4.4	516897

Prep Batch: 517511

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.7	
MB 280-517511/1-A	Method Blank	Total/NA	Water	200.7	
LCS 280-517511/2-A	Lab Control Sample	Total/NA	Water	200.7	
LCSD 280-517511/3-A	Lab Control Sample Dup	Total/NA	Water	200.7	

Analysis Batch: 517950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	200.7 Rev 4.4	517511
MB 280-517511/1-A	Method Blank	Total/NA	Water	200.7 Rev 4.4	517511
LCS 280-517511/2-A	Lab Control Sample	Total/NA	Water	200.7 Rev 4.4	517511
LCSD 280-517511/3-A	Lab Control Sample Dup	Total/NA	Water	200.7 Rev 4.4	517511

General Chemistry

Analysis Batch: 223835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	SM 2540C	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	SM 2540C	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	SM 2540C	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	SM 2540C	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	SM 2540C	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	SM 2540C	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	SM 2540C	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	SM 2540C	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	SM 2540C	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	SM 2540C	
MB 550-223835/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-223835/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-223835/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-151758-33 DU	CH-CCR-W317-1020	Total/NA	Water	SM 2540C	

Analysis Batch: 223938

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-2	CH-CCR-M52-1020	Dissolved	Water	SM 5310B	
550-151758-4	CH-CCR-M53-1020	Dissolved	Water	SM 5310B	
550-151758-6	CH-CCR-M55-1020	Dissolved	Water	SM 5310B	
550-151758-8	CH-CCR-M69-1020	Dissolved	Water	SM 5310B	
550-151758-10	CH-CCR-M70-1020	Dissolved	Water	SM 5310B	
550-151758-14	CH-CCR-W302-1020	Dissolved	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 223938 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-16	CH-CCR-W303-1020	Dissolved	Water	SM 5310B	
550-151758-18	CH-CCR-W304-1020	Dissolved	Water	SM 5310B	
550-151758-20	CH-CCR-FD03-1020	Dissolved	Water	SM 5310B	
550-151758-22	CH-CCR-W305-1020	Dissolved	Water	SM 5310B	
550-151758-24	CH-CCR-W306-1020	Dissolved	Water	SM 5310B	
550-151758-26	CH-CCR-W307-1020	Dissolved	Water	SM 5310B	
550-151758-28	CH-CCR-W308-1020	Dissolved	Water	SM 5310B	
550-151758-30	CH-CCR-W309-1020	Dissolved	Water	SM 5310B	
550-151758-35	CH-CCR-FD04-1020	Dissolved	Water	SM 5310B	
MB 550-223938/34	Method Blank	Dissolved	Water	SM 5310B	
MB 550-223938/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-223938/35	Lab Control Sample	Dissolved	Water	SM 5310B	
LCS 550-223938/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-223938/36	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
LCSD 550-223938/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-151754-B-3 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-151754-C-3 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	
550-151758-22 MS	CH-CCR-W305-1020	Dissolved	Water	SM 5310B	
550-151758-22 MSD	CH-CCR-W305-1020	Dissolved	Water	SM 5310B	

Analysis Batch: 223980

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	SM 2540C	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	SM 2540C	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	SM 2540C	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	SM 2540C	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	SM 2540C	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	SM 2540C	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	SM 2540C	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	SM 2540C	
MB 550-223980/1	Method Blank	Total/NA	Water	SM 2540C	
LCS 550-223980/2	Lab Control Sample	Total/NA	Water	SM 2540C	
LCSD 550-223980/3	Lab Control Sample Dup	Total/NA	Water	SM 2540C	
550-151758-5 DU	CH-CCR-M55-1020	Total/NA	Water	SM 2540C	
550-151796-A-1 DU	Duplicate	Total/NA	Water	SM 2540C	

Analysis Batch: 224081

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-12	CH-CCR-W301-1020	Dissolved	Water	SM 5310B	
550-151758-32	CH-CCR-W314-1020	Dissolved	Water	SM 5310B	
MB 550-224081/5	Method Blank	Dissolved	Water	SM 5310B	
LCS 550-224081/6	Lab Control Sample	Dissolved	Water	SM 5310B	
LCSD 550-224081/7	Lab Control Sample Dup	Dissolved	Water	SM 5310B	
550-151754-C-7 MS	Matrix Spike	Dissolved	Water	SM 5310B	
550-151754-D-7 MSD	Matrix Spike Duplicate	Dissolved	Water	SM 5310B	

Analysis Batch: 224082

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	SM 5310B	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	SM 5310B	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	SM 5310B	

General Chemistry (Continued)

Analysis Batch: 224082 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	SM 5310B	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	SM 5310B	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	SM 5310B	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	SM 5310B	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	SM 5310B	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	SM 5310B	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	SM 5310B	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	SM 5310B	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	SM 5310B	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	SM 5310B	
MB 550-224082/17	Method Blank	Total/NA	Water	SM 5310B	
MB 550-224082/47	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-224082/18	Lab Control Sample	Total/NA	Water	SM 5310B	
LCS 550-224082/48	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-224082/19	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
LCSD 550-224082/49	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-151758-34 MS	CH-CCR-FD04-1020	Total/NA	Water	SM 5310B	
550-151758-34 MSD	CH-CCR-FD04-1020	Total/NA	Water	SM 5310B	
550-151831-A-1 MS ^10	Matrix Spike	Total/NA	Water	SM 5310B	
550-151831-A-1 MSD ^10	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 224480

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-224480/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-224480/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-151754-A-18 DU	Duplicate	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 224675

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-33	CH-CCR-W317-1020	Total/NA	Water	SM 4500 H+ B	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-224675/1	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-224675/13	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
LCSSRM 550-224675/25	Lab Control Sample	Total/NA	Water	SM 4500 H+ B	
550-151758-5 DU	CH-CCR-M55-1020	Total/NA	Water	SM 4500 H+ B	

General Chemistry (Continued)

Analysis Batch: 224675 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-25 DU	CH-CCR-W307-1020	Total/NA	Water	SM 4500 H+ B	

Analysis Batch: 224773

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	SM 5310B	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	SM 5310B	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	SM 5310B	
MB 550-224773/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-224773/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-224773/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-151831-C-1 MS ^5	Matrix Spike	Total/NA	Water	SM 5310B	
550-151831-C-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 224894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	SM 5310B	
MB 550-224894/5	Method Blank	Total/NA	Water	SM 5310B	
LCS 550-224894/6	Lab Control Sample	Total/NA	Water	SM 5310B	
LCSD 550-224894/7	Lab Control Sample Dup	Total/NA	Water	SM 5310B	
550-152348-A-1 MS ^5	Matrix Spike	Total/NA	Water	SM 5310B	
550-152348-A-1 MSD ^5	Matrix Spike Duplicate	Total/NA	Water	SM 5310B	

Analysis Batch: 224972

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-151758-1	CH-CCR-M52-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-3	CH-CCR-M53-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-5	CH-CCR-M55-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-7	CH-CCR-M69-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-9	CH-CCR-M70-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-11	CH-CCR-W301-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-13	CH-CCR-W302-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-15	CH-CCR-W303-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-17	CH-CCR-W304-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-19	CH-CCR-FD03-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-21	CH-CCR-W305-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-23	CH-CCR-W306-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-25	CH-CCR-W307-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-27	CH-CCR-W308-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-29	CH-CCR-W309-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-31	CH-CCR-W314-1020	Total/NA	Water	SM 4500 NH3 D	
550-151758-34	CH-CCR-FD04-1020	Total/NA	Water	SM 4500 NH3 D	
MB 550-224972/4	Method Blank	Total/NA	Water	SM 4500 NH3 D	
LCS 550-224972/5	Lab Control Sample	Total/NA	Water	SM 4500 NH3 D	
LCSD 550-224972/6	Lab Control Sample Dup	Total/NA	Water	SM 4500 NH3 D	
550-151843-C-1 MS	Matrix Spike	Total/NA	Water	SM 4500 NH3 D	
550-151843-C-1 MSD	Matrix Spike Duplicate	Total/NA	Water	SM 4500 NH3 D	

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-M52-1020

Lab Sample ID: 550-151758-1

Date Collected: 10/22/20 15:14
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/28/20 22:25	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/28/20 22:44	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 16:54	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:05	MGM	TAL PHX
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 17:43	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:34	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:14	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:26	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:21	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224480	11/02/20 18:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 13:33	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 14:38	MEG	TAL PHX

Client Sample ID: CH-CCR-M52-1020

Lab Sample ID: 550-151758-2

Date Collected: 10/22/20 15:14
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:11	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:26	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 13:51	MEG	TAL PHX

Client Sample ID: CH-CCR-M53-1020

Lab Sample ID: 550-151758-3

Date Collected: 10/22/20 11:33
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 19:07	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 19:25	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 18:43	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:09	MGM	TAL PHX

Client Sample ID: CH-CCR-M53-1020 — Lab Sample ID: 550-151758-3

Date Collected: 10/22/20 11:33 — **Matrix: Water**
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 17:46	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:36	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:16	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:23	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224480	11/02/20 18:00	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 13:42	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224894	11/05/20 19:44	MEG	TAL PHX

Client Sample ID: CH-CCR-M53-1020 — Lab Sample ID: 550-151758-4

Date Collected: 10/22/20 11:33 — **Matrix: Water**
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:15	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:28	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 14:02	MEG	TAL PHX

Client Sample ID: CH-CCR-M55-1020 — Lab Sample ID: 550-151758-5

Date Collected: 10/24/20 09:02 — **Matrix: Water**
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/28/20 23:02	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/28/20 23:20	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 19:11	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:13	MGM	TAL PHX
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 17:50	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:38	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:18	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:39	SRR	TAL PHX

Client Sample ID: CH-CCR-M55-1020
Date Collected: 10/24/20 09:02
Date Received: 10/26/20 14:25

Lab Sample ID: 550-151758-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 13:50	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 15:02	MEG	TAL PHX

Client Sample ID: CH-CCR-M55-1020
Date Collected: 10/24/20 09:02
Date Received: 10/26/20 14:25

Lab Sample ID: 550-151758-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:18	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:30	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 14:15	MEG	TAL PHX

Client Sample ID: CH-CCR-M69-1020
Date Collected: 10/23/20 09:47
Date Received: 10/26/20 14:25

Lab Sample ID: 550-151758-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/28/20 23:39	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/28/20 23:57	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 19:38	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:16	MGM	TAL PHX
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 17:53	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:52	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:09	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:41	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:00	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224773	11/04/20 17:42	MEG	TAL PHX

Client Sample ID: CH-CCR-M69-1020

Lab Sample ID: 550-151758-8

Date Collected: 10/23/20 09:47
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:22	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:34	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 14:25	MEG	TAL PHX

Client Sample ID: CH-CCR-M70-1020

Lab Sample ID: 550-151758-9

Date Collected: 10/23/20 07:57
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/29/20 00:52	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/29/20 01:11	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 20:33	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:20	MGM	TAL PHX
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 17:56	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:40	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:21	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	227373	12/07/20 11:43	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:42	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:08	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 15:25	MEG	TAL PHX

Client Sample ID: CH-CCR-M70-1020

Lab Sample ID: 550-151758-10

Date Collected: 10/23/20 07:57
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:26	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:32	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 14:37	MEG	TAL PHX

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W301-1020

Lab Sample ID: 550-151758-11

Date Collected: 10/22/20 09:05
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/29/20 01:29	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/29/20 01:48	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 21:00	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:24	MGM	TAL PHX
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 18:00	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:43	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:23	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 12:47	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:24	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:16	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 15:37	MEG	TAL PHX

Client Sample ID: CH-CCR-W301-1020

Lab Sample ID: 550-151758-12

Date Collected: 10/22/20 09:05
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:30	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:36	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	224081	10/28/20 11:38	MEG	TAL PHX

Client Sample ID: CH-CCR-W302-1020

Lab Sample ID: 550-151758-13

Date Collected: 10/23/20 12:50
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/29/20 02:06	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/29/20 02:24	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 22:23	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:28	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W302-1020

Lab Sample ID: 550-151758-13
Date Collected: 10/23/20 12:50
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			516897	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 18:03	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:45	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:25	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:44	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:23	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 16:09	MEG	TAL PHX

Client Sample ID: CH-CCR-W302-1020

Lab Sample ID: 550-151758-14
Date Collected: 10/23/20 12:50
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:34	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:43	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 15:02	MEG	TAL PHX

Client Sample ID: CH-CCR-W303-1020

Lab Sample ID: 550-151758-15
Date Collected: 10/22/20 10:16
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/29/20 02:43	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/29/20 03:01	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 22:50	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:31	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 18:27	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:47	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:27	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:26	SRR	TAL PHX

Client Sample ID: CH-CCR-W303-1020

Lab Sample ID: 550-151758-15

Date Collected: 10/22/20 10:16
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:32	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224773	11/04/20 17:53	MEG	TAL PHX

Client Sample ID: CH-CCR-W303-1020

Lab Sample ID: 550-151758-16

Date Collected: 10/22/20 10:16
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:37	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:45	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 15:15	MEG	TAL PHX

Client Sample ID: CH-CCR-W304-1020

Lab Sample ID: 550-151758-17

Date Collected: 10/23/20 14:05
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224067	10/29/20 03:20	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224067	10/29/20 03:38	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/28/20 23:17	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:35	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 18:40	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	225482	11/12/20 22:49	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:29	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:45	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 14:38	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 16:32	MEG	TAL PHX

Client Sample ID: CH-CCR-W304-1020

Lab Sample ID: 550-151758-18

Date Collected: 10/23/20 14:05

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:49	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:47	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 15:28	MEG	TAL PHX

Client Sample ID: CH-CCR-FD03-1020

Lab Sample ID: 550-151758-19

Date Collected: 10/23/20 07:57

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 19:44	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 20:02	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/29/20 00:12	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:47	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 18:44	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:35	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 12:49	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:47	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:05	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224773	11/04/20 18:04	MEG	TAL PHX

Client Sample ID: CH-CCR-FD03-1020

Lab Sample ID: 550-151758-20

Date Collected: 10/23/20 07:57

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:52	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:49	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 15:41	MEG	TAL PHX

Client Sample ID: CH-CCR-W305-1020

Lab Sample ID: 550-151758-21

Date Collected: 10/22/20 12:47

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 20:57	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 21:16	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/29/20 00:40	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:50	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:00	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:37	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 12:51	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:27	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:15	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 16:56	MEG	TAL PHX

Client Sample ID: CH-CCR-W305-1020

Lab Sample ID: 550-151758-22

Date Collected: 10/22/20 12:47

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:56	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	225097	11/09/20 20:29	ARE	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:51	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 16:57	MEG	TAL PHX

Client Sample ID: CH-CCR-W306-1020

Lab Sample ID: 550-151758-23

Date Collected: 10/22/20 13:55

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 21:34	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 21:52	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/29/20 01:07	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:54	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W306-1020

Lab Sample ID: 550-151758-23

Date Collected: 10/22/20 13:55
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:04	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	226262	11/20/20 17:39	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		4	226828	11/30/20 14:29	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:32	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:24	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 17:08	MEG	TAL PHX

Client Sample ID: CH-CCR-W306-1020

Lab Sample ID: 550-151758-24

Date Collected: 10/22/20 13:55
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 21:00	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:53	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 17:33	MEG	TAL PHX

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-25

Date Collected: 10/23/20 15:20
Matrix: Water
Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 22:48	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 23:06	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/29/20 02:02	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 05:55	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:07	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:42	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:28	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:51	SRR	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-25

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:31	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 17:19	MEG	TAL PHX

Client Sample ID: CH-CCR-W307-1020

Lab Sample ID: 550-151758-26

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 21:04	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	225097	11/09/20 20:33	ARE	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:55	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 17:43	MEG	TAL PHX

Client Sample ID: CH-CCR-W308-1020

Lab Sample ID: 550-151758-27

Date Collected: 10/24/20 08:04
Date Received: 10/26/20 14:25

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 23:24	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 23:43	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224068	10/29/20 02:29	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 05:58	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:11	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:44	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:03	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:53	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:37	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 17:32	MEG	TAL PHX

Client Sample ID: CH-CCR-W308-1020

Lab Sample ID: 550-151758-28

Date Collected: 10/24/20 08:04

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 21:08	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:57	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 17:54	MEG	TAL PHX

Client Sample ID: CH-CCR-W309-1020

Lab Sample ID: 550-151758-29

Date Collected: 10/24/20 10:10

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/30/20 00:38	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/30/20 00:56	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224208	10/29/20 14:54	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 06:02	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:14	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:46	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:54	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:44	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 17:44	MEG	TAL PHX

Client Sample ID: CH-CCR-W309-1020

Lab Sample ID: 550-151758-30

Date Collected: 10/24/20 10:10

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 21:11	MGM	TAL PHX
Dissolved	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	225482	11/12/20 22:32	ARE	TAL PHX
Dissolved	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	226262	11/20/20 17:12	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 18:07	MEG	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-31

Date Collected: 10/23/20 11:17

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/30/20 01:52	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/30/20 02:10	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224208	10/29/20 16:44	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 06:06	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:17	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:48	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:05	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:56	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:50	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 17:58	MEG	TAL PHX

Client Sample ID: CH-CCR-W314-1020

Lab Sample ID: 550-151758-32

Date Collected: 10/23/20 11:17

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 21:15	MGM	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	225097	11/09/20 20:37	ARE	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 10:59	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	224081	10/28/20 12:02	MEG	TAL PHX

Client Sample ID: CH-CCR-W317-1020

Lab Sample ID: 550-151758-33

Date Collected: 10/21/20 11:27

Matrix: Water

Date Received: 10/26/20 14:25

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/30/20 01:15	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/30/20 01:33	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 03:01	MGM	TAL PHX
Total/NA	Prep	200.7			517511	11/23/20 08:09	MAB	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517950	11/23/20 16:37	LMT	TAL DEN

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Client Sample ID: CH-CCR-W317-1020
Lab Sample ID: 550-151758-33

Date Collected: 10/21/20 11:27
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:54	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:12	ARE	TAL PHX
Total/NA	Prep	245.1			223922	10/27/20 18:23	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224045	10/28/20 15:33	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223835		YET	TAL PHX
					(Start)	10/27/20 08:45		
					(End)	10/28/20 09:30		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX

Client Sample ID: CH-CCR-FD04-1020
Lab Sample ID: 550-151758-34

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	300.0		2	224210	10/29/20 22:11	RDC	TAL PHX
Total/NA	Analysis	300.0		200	224210	10/29/20 22:29	RDC	TAL PHX
Total/NA	Analysis	300.0		5	224208	10/29/20 17:12	RDC	TAL PHX
Total/NA	Prep	200.7			224142	10/29/20 11:02	SGO	TAL PHX
Total/NA	Analysis	200.7 Rev 4.4		1	224878	11/06/20 06:10	MGM	TAL PHX
Total/NA	Prep	200.7			516898	11/17/20 15:45	EC	TAL DEN
Total/NA	Analysis	200.7 Rev 4.4		1	517283	11/18/20 19:21	LMT	TAL DEN
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226262	11/20/20 17:50	ARE	TAL PHX
Total/NA	Prep	200.8			224433	11/02/20 10:09	SGO	TAL PHX
Total/NA	Analysis	200.8 LL		2	226816	11/30/20 13:07	ARE	TAL PHX
Total/NA	Prep	245.1			224052	10/28/20 18:28	SRR	TAL PHX
Total/NA	Analysis	245.1		1	224200	10/29/20 17:57	SRR	TAL PHX
Total/NA	Analysis	SM 2540C		1	223980		YET	TAL PHX
					(Start)	10/28/20 09:27		
					(End)	10/29/20 10:55		
Total/NA	Analysis	SM 4500 H+ B		1	224675	11/04/20 16:10	MRR	TAL PHX
Total/NA	Analysis	SM 4500 NH3 D		1	224972	11/07/20 15:57	DGS	TAL PHX
Total/NA	Analysis	SM 5310B		1	224082	10/28/20 19:12	MEG	TAL PHX

Client Sample ID: CH-CCR-FD04-1020
Lab Sample ID: 550-151758-35

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.7			223989	10/28/20 09:43	SGO	TAL PHX
Dissolved	Analysis	200.7 Rev 4.4		1	224991	11/06/20 20:07	MGM	TAL PHX

Lab Chronicle

Client: Arizona Public Service Company
Project/Site: CCR Groundwater Monitoring

Job ID: 550-151758-1
SDG: APS Cholla Power Plant (BAP)

Client Sample ID: CH-CCR-FD04-1020

Date Collected: 10/23/20 15:20
Date Received: 10/26/20 14:25

Lab Sample ID: 550-151758-35

Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		2	225097	11/09/20 20:39	ARE	TAL PHX
Dissolved	Prep	200.8			223800	10/27/20 06:29	SGO	TAL PHX
Dissolved	Analysis	200.8 LL		4	226148	11/20/20 11:01	ARE	TAL PHX
Dissolved	Analysis	SM 5310B		1	223938	10/27/20 18:30	MEG	TAL PHX

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

Accreditation/Certification Summary

Client: Arizona Public Service Company | Job ID: 550-151758-1
Project/Site: CCR Groundwater Monitoring | SDG: APS Cholla Power Plant (BAP)

Laboratory: Eurofins TestAmerica, Phoenix

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-08-21

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
200.8 LL	200.8	Water	Molybdenum
SM 4500 H+ B		Water	Temperature
SM 5310B		Water	Dissolved Organic Carbon - Quad

Laboratory: Eurofins TestAmerica, Denver

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	2907.01	10-31-21
A2LA	ISO/IEC 17025	2907.01	10-31-21
Alabama	State Program	40730	09-30-12 *
Alaska (UST)	State	18-001	02-08-21
Arizona	State	AZ0713	12-19-20
Arkansas DEQ	State	19-047-0	06-01-21
California	State	2513	01-08-21
Connecticut	State	PH-0686	09-30-20 *
Florida	NELAP	E87667-57	07-01-21
Georgia	State	4025-011	01-09-21
Illinois	NELAP	2000172019-1	04-30-21
Iowa	State	IA#370	12-01-20
Kansas	NELAP	E-10166	04-30-21
Louisiana	NELAP	30785	06-30-14 *
Louisiana	NELAP	30785	06-30-21
Maine	State	2019011 (231)	03-03-21
Minnesota	NELAP	1788752	12-21-20
Nevada	State	CO000262020-1	07-31-21
New Hampshire	NELAP	205319	04-29-21
New Jersey	NELAP	190002	06-30-21
New York	NELAP	59923	04-01-21
North Carolina (WW/SW)	State	358	12-31-20
North Dakota	State	R-034	01-08-21
Oklahoma	State	2018-006	09-01-21
Oregon	NELAP	4025-011	01-08-21
Pennsylvania	NELAP	013	07-31-21
South Carolina	State	72002001	01-08-21
Texas	NELAP	TX104704183-08-TX	09-30-09 *
Texas	NELAP	T104704183-20-18	09-30-21
US Fish & Wildlife	US Federal Programs	058448	08-01-21
USDA	US Federal Programs	P330-18-00099	03-26-21
Utah	NELAP	QUAN5	06-30-13 *
Utah	NELAP	CO000262019-11	07-31-21
Virginia	NELAP	10490	06-14-21
Washington	State	C583-19	08-03-21
West Virginia DEP	State	354	11-30-20
Wisconsin	State	999615430	08-31-21
Wyoming (UST)	A2LA	2907.01	10-31-21

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins TestAmerica, Phoenix

Method	Method Description	Protocol	Laboratory
300.0	Anions, Ion Chromatography	MCAWW	TAL PHX
200.7 Rev 4.4	Metals (ICP)	EPA	TAL DEN
200.7 Rev 4.4	Metals (ICP)	40CFR136A	TAL PHX
200.8 LL	Metals (ICP/MS)	EPA	TAL PHX
245.1	Mercury (CVAA)	EPA	TAL PHX
SM 2540C	Solids, Total Dissolved (TDS)	SM	TAL PHX
SM 4500 H+ B	pH	SM	TAL PHX
SM 4500 NH3 D	Ammonia	SM	TAL PHX
SM 5310B	Organic Carbon, Dissolved (DOC)	SM	TAL PHX
SM 5310B	Organic Carbon, Total (TOC)	SM	TAL PHX
200.7	Preparation, Total Metals	EPA	TAL DEN
200.7	Preparation, Total Metals	EPA	TAL PHX
200.8	Preparation, Total Metals	EPA	TAL PHX
245.1	Preparation, Mercury	EPA	TAL PHX

Protocol References:

40CFR136A = "Methods for Organic Chemical Analysis of Municipal Industrial Wastewater", 40CFR, Part 136, Appendix A, October 26, 1984 and subsequent revisions.

EPA = US Environmental Protection Agency

MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.

SM = "Standard Methods For The Examination Of Water And Wastewater"

Laboratory References:

TAL DEN = Eurofins TestAmerica, Denver, 4955 Yarrow Street, Arvada, CO 80002, TEL (303)736-0100

TAL PHX = Eurofins TestAmerica, Phoenix, 4625 East Cotton Ctr Blvd, Suite 189, Phoenix, AZ 85040, TEL (602)437-3340

TestAmerica Phoenix
4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.930_

550-151758 Chain of Custody

Chain of Custody Record

151758

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

Regulatory Program: ☐DW ☐NPDES ☐RCRA ☑Other: CCR

TestAmerica Laboratories, Inc.

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	1 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ____			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
Project #:	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC, DOC)	SM 4500D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	Sample Specific Notes:
1+2	CH-CCR-M52-1020	10/22/20	15:14	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	Low Flow
3+4	CH-CCR-M53-1020	|	11:33	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
5+6	CH-CCR-M55-1020	10/24/20	09:02	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
7+8	CH-CCR-M69-1020	10/23/20	09:47	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
9+10	CH-CCR-M70-1020	|	07:57	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
11+12	CH-CCR-W301-1020	10/[illegible]/20	09:05	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
13+14	CH-CCR-W302-1020	10/23/20	12:50	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
15+16	CH-CCR-W303-1020	10/22/20	10:16	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
17+18	CH-CCR-W304-1020	10/23/20	14:05	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
19+20	CH-CCR-FD03-1020	10/23/20	07:57	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X	"
Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ____									1	4	4	4	4	4	1	1	2	3	3	

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.
☑Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison B ☐Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐Return to Client ☑Disposal by Lab ☐Archive for ____ Months

Special Instructions/QC Requirements & Comments:
*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

3.5 | 2.0 | 1.3°

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:	Cooler Temp. (°C): Obs'd: ____ Corr'd: ____ Therm ID No.: ____	
Relinquished by: Isaac Torres	Company: Wood	Date/Time: 10/26/20 14:25	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 10/26/20 14:25

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

CDo

TestAmerica Phoenix

4625 E Cotton Center Blvd
Suite 189
Phoenix, AZ 85040
phone 602.437.3340 fax 602.454.9303

Chain of Custody Record

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
TestAmerica Laboratories, Inc.

758
1515 ~~1515~~ 10/26/20

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☑ Other: CCR

Client Contact	Natalie Chrisman	Jim Edwards / (928) 288-1241	Date:	COC No:
Arizona Public Service	(602) 250-3608	Lab Contact: Ken Baker	Carrier:	2 of 2 COCs
4801 Cholla Lake Rd	Analysis Turnaround Time			Sampler:
Joseph City, AZ 86032	☑ CALENDAR DAYS ☑ WORKING DAYS			For Lab Use Only:
(928) 587-0319 Phone	TAT if different from Below ______			Walk-in Client:
FAX	☑ 2 weeks			Lab Sampling:
Project Name: CCR Groundwater Monitoring	☐ 1 week			
Site: APS Cholla Power Plant (BAP)	☐ 2 days			Job / SDG No.:
Project #:	☐ 1 day			

	Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=Grab)	Matrix	# of Cont.	Filtered Sample (Y / N)	Perform MS / MSD (Y / N)	EPA 300.0 (Cl, F, SO4)	EPA 200.7 - Totals (B, Ca, Be, Li, Fe, Mn)	EPA 200.7 - Dissolved (Fe, Mn)	EPA 200.8 - Totals (Sb, As, Ba, Cd, Co, Cr, Pb, Mo, Se, Tl)	EPA 200.8 - Dissolved (As, Co)	EPA 245.1 - Totals (Hg)	SM 4500-HB (pH)	SM 2540C (TDS)	SM 5310B (TOC, DOC)	SM 4500D (NH3 as N)	SM 4500E/B (NO3+NO2 as N)	EPA 200.7 - Totals (B, Ca, Be, Li)	Sample Specific Notes:
21+22	CH-CCR-W305-1020	10/22/20	12:47	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		Low Flow
23+24	CH-CCR-W306-1020	|	13:55	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
25+26	CH-CCR-W307-1020	10/23/20	15:20	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
27+28	CH-CCR-W308-1020	10/24/20	08:04	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
29+30	CH-CCR-W309-1020	|	10:10	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
31+32	CH-CCR-W314-1020	10/23/20	11:17	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
33	CH-CCR-W317-1020	10/21/20	11:27	G	W	2	N	N	X			X		X	X	X				X	"
35+36	CH-CCR-FD04-1020	10/23/20	15:20	G	W	12	*	N	X	X	X	X	X	X	X	X	X	X	X		"
34+36																					

Preservation Used: 1= Ice, 2= HCl; 3= H2SO4; 4=HNO3; 5=NaOH; 6= Other ______ | 1 | 4 | 4 | 4 | 4 | 4 | 1 | 1 | 2 | 3 | 3 | 4

Possible Hazard Identification:
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.

☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)

☐ Return to Client ☑ Disposal by Lab ☐ Archive for ______ Months

Special Instructions/QC Requirements & Comments:

*Perform Method 200.8 with collision cell; * As marked on the bottle; perform dissolved analyses with sample provided in bottles marked 'field filtered'*

2.7 / 1.7

Custody Seals Intact: ☐ Yes ☐ No	Custody Seal No.:		Cooler Temp. (°C): Obs'd: ______ Corr'd: ______		Therm ID No.: ______
Relinquished by: Isaac Torres	Company: Wood	Date/Time: 10/26/20 14:25	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received by:	Company:	Date/Time:
Relinquished by:	Company:	Date/Time:	Received in Laboratory by:	Company: TA-PHX	Date/Time: 10/26/20 14:25

CDO 10/26/20

Form No. CA-C-WI-002, Rev. 4.2, dated 04/02/2013

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29204.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-151758-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/17/2020	Analysis Requested		Preservation Codes:
City: Arvada	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
State, Zip: CO, 80002				M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			Other:
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-M52-1020 (550-151758-1)	10/22/20	15:14 Arizona		Water			X	1	AZ Sample
CH-CCR-M53-1020 (550-151758-3)	10/22/20	11:33 Arizona		Water			X	1	AZ Sample
CH-CCR-M55-1020 (550-151758-5)	10/24/20	09:02 Arizona		Water			X	1	AZ Sample
CH-CCR-M69-1020 (550-151758-7)	10/23/20	09:47 Arizona		Water			X	1	AZ Sample
CH-CCR-M70-1020 (550-151758-9)	10/23/20	07:57 Arizona		Water			X	1	AZ Sample
CH-CCR-W301-1020 (550-151758-11)	10/22/20	09:05 Arizona		Water			X	1	AZ Sample
CH-CCR-W302-1020 (550-151758-13)	10/23/20	12:50 Arizona		Water			X	1	AZ Sample
CH-CCR-W303-1020 (550-151758-15)	10/22/20	10:16 Arizona		Water			X	1	AZ Sample
CH-CCR-W304-1020 (550-151758-17)	10/23/20	14:05 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For ______ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:	Time:		Method of Shipment:
Relinquished by: Para	Date/Time: 11-13-20 13:15	Company: TA-PHX	Received by: FedEx	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: [signature]	Date/Time: 11/14/2020 0915	Company: ETA-DEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 3.4 IR11 -0.3 JO 11/14/2020		

Ver: 01/16/2019

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29204.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-151758-1
Address: 4955 Yarrow Street,	Due Date Requested: 11/17/2020			
City: Arvada	TAT Requested (days):			
State, Zip: CO, 80002				
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-FD03-1020 (550-151758-19)	10/23/20	07:57 Arizona		Water			X	1	AZ Sample
CH-CCR-W305-1020 (550-151758-21)	10/22/20	12:47 Arizona		Water			X	1	AZ Sample
CH-CCR-W306-1020 (550-151758-23)	10/22/20	13:55 Arizona		Water			X	1	AZ Sample
CH-CCR-W307-1020 (550-151758-25)	10/23/20	15:20 Arizona		Water			X	1	AZ Sample
CH-CCR-W308-1020 (550-151758-27)	10/24/20	08:04 Arizona		Water			X	1	AZ Sample
CH-CCR-W309-1020 (550-151758-29)	10/24/20	10:10 Arizona		Water			X	1	AZ Sample
CH-CCR-W314-1020 (550-151758-31)	10/23/20	11:17 Arizona		Water			X	1	AZ Sample
CH-CCR-FD04-1020 (550-151758-34)	10/23/20	15:20 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Emil 11-13-20	Date/Time: 1315	Company: TAPHX	Received by: Fedex	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by: JOV	Date/Time: 11/14/2020 0915	Company: ETADEN
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:		

Ver: 01/16/2019

1 2 3 4 5 6 7 8 9 10 11 12 13 14

Eurofins TestAmerica, Phoenix
4625 East Cotton Ctr Blvd Suite 189
Phoenix, AZ 85040
Phone: 602-437-3340 Fax: 602-454-9303

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Baker, Ken	Carrier Tracking No(s):	COC No: 550-29247.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Ken.Baker@Eurofinset.com	State of Origin: Arizona	Page: Page 1 of 1
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): State Program - Arizona		Job #: 550-151758-1
Address: 4955 Yarrow Street, ,	Due Date Requested: 11/23/2020	Analysis Requested		Preservation Codes:
City: Arvada	TAT Requested (days):			A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
State, Zip: CO, 80002				M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Phone: 303-736-0100(Tel) 303-431-7171(Fax)	PO #:			
Email:	WO #:			
Project Name: CCR Groundwater Monitoring	Project #: 55009651			
Site: Arizona Public Service	SSOW#:			Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	200.7/200.7_P_TOT Lithium	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
CH-CCR-W317-1020 (550-151758-33)	10/21/20	11:27 Arizona		Water			X	1	AZ Sample

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: Eus 11-18-20	Date/Time: 15:45	Company: TA-PHX	Received by: FedEx	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by: [illegible]	Date/Time: 11/19/2020 0940	Company: ETA DEN
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.7 IR11 -0.3 5.0 11/19/2020

Ver: 11/01/2020

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-151758-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 151758
List Number: 1
Creator: Maycock, Lisa

List Source: Eurofins TestAmerica, Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	False	Check done at department level as required.

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-151758-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 151758
List Number: 2
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 11/14/20 05:28 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	Limited volume received.
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Arizona Public Service Company

Job Number: 550-151758-1
SDG Number: APS Cholla Power Plant (BAP)

Login Number: 151758
List Number: 3
Creator: O'Hara, Jake F

List Source: Eurofins TestAmerica, Denver
List Creation: 11/19/20 09:51 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	False	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Appendix O

ADWR Wells 55 Registry Database Reviews for 2021

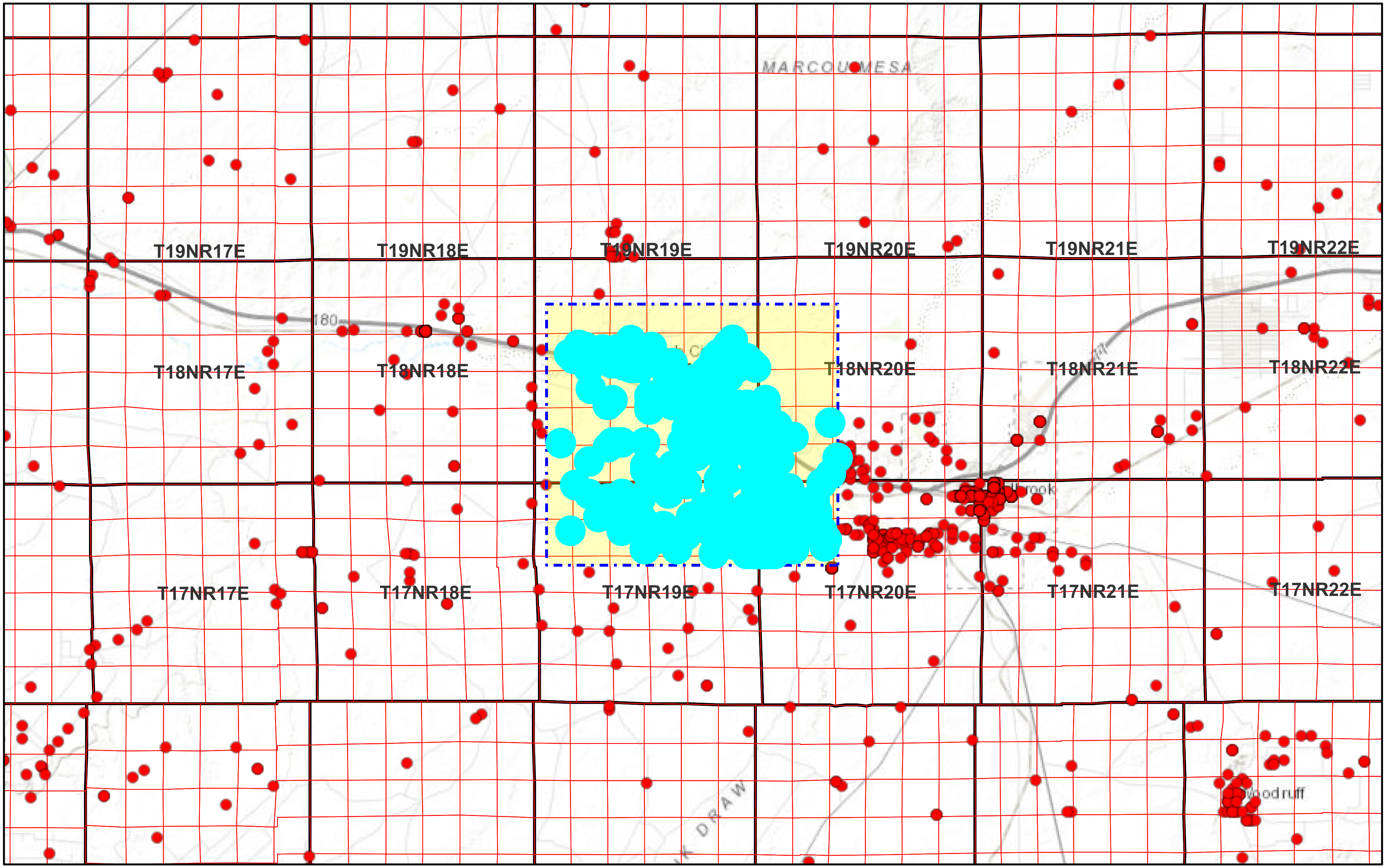
Registry No. (55-)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Applicaiton Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received
085748		A18019022ACC	RANDALL,D S	EXEMPT	365	365	8	8/29/1980	9/24/1980	74	0	NO		
506364		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	N	X
506365		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	54	54	5	10/11/1983	9/21/1983	20	0	NO	N	X
506366		A18019024BBD	AZ PUBLIC SERVICE,	EXEMPT	118	65	5	10/21/1983	9/21/1983	26	0	NO	N	X
506367		A18019013DBD	AZ PUBLIC SERVICE,	EXEMPT	93	84	5	10/14/1983	9/21/1983	45	0	NO	N	X
506368		A18019013CDD	AZ PUBLIC SERVICE,	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X
506369		A18019023AAC	AZ PUBLIC SERVICE,	EXEMPT	39	0	0	10/26/1983	9/21/1983	0	0	NO	N	X
506370		A18019023ADA	AZ PUBLIC SERVICE,	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X
506371		A18019023DAB	AZ PUBLIC SERVICE,	EXEMPT	54	47	5	11/1/1983	9/21/1983	37	0	NO	N	X
506372		A18019023ACA	AZ PUBLIC SERVICE,	EXEMPT	94	65	5	10/4/1983	9/21/1983	32	0	NO	N	X
537495		A18020031CDC	WESTOVER, BOYD,L	EXEMPT	125	125	0	2/2/1993	12/1/1992	6	0	NO	C	X
539095		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	0	NO	C	X
539096		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/28/1993	5/12/1993	5	0	NO	C	X
539097		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539098		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539099		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	0	NO	C	X
539100		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	20	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539101		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0	7/7/1993	5/12/1993	1	0	NO	C	X
539102		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	21	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539103		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	C	X
539104		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	6/2/1993	5/12/1993	1	0	NO	C	X
539105		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539106		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539107		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539108		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539109		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539110		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539111		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539112		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539113		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539114		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539115		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539116		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539117		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539118		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539859		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		7/12/1993	0	0	NO		
539860		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/21/1993	7/12/1993	25	0	NO		X
539861		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/23/1993	7/12/1993	25	0	NO		X
539862		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/22/1993	7/12/1993	25	0	NO		X
539863		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	35	35	5	7/25/1993	7/12/1993	25	0	NO		X
539864		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/24/1993	7/12/1993	25	0	NO		X
539986		A18020031BBB	HUNT, BOYCE,B	EXEMPT	130	30	61	9/7/1993	7/16/1993	105	0	NO	C	X
541134	345512110151701	A18020031ACC	KEMPTON, CARL,	EXEMPT	160	100	6	11/8/1993	10/20/1993	115	0	NO	C	X
553267		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	49	49	5	12/21/1995	11/30/1995	2	25	NO	X	X
593169		A18019034DBC	MILTON H DESPAIN	EXEMPT	115	50	6	9/7/2002	6/20/2002	43		NO		X
613125		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	45	0	2		6/10/1982	24	0	NO		

613126		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	6	0	2		6/10/1982	2	0	NO		
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	0	0	NO		
613128		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	1	0	NO		
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0		6/10/1982	2	0	NO		
613130		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	15	0	0		6/10/1982	15	0	NO		
613131		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	20	0	NO		
613132		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	2	0	NO		
613133		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	17	0	NO		
613134		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	17	0	NO		
613135		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	8	0	NO		
613136		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	6	0	0		6/10/1982	1	0	NO		
613137		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	1	0	NO		
613138		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	0	0	NO		
613139		A18019026ACC	AZ PUBLIC SERVICE,	EXEMPT	14	0	0		6/10/1982	12	0	NO		
613140		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	18	0	NO		
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO		
613142		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	35	0	0		6/10/1982	13	0	NO		
613145		A18019026CBB	AZ PUBLIC SERVICE,	EXEMPT	570	0	0	1/1/1959	6/10/1982	30	0	NO		
613148		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO		
613149	345613110180601	A18019026BBA	AZ PUBLIC SERVICE,	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO		
613150		A18019035BDB	AZ PUBLIC SERVICE,	EXEMPT	57	50	6	8/23/1973	6/10/1982	45	0	NO		
613151		A18019026CAA	AZ PUBLIC SERVICE,	EXEMPT	57	53	6	8/28/1973	6/10/1982	40	0	NO		
613152		A18019025CDC	ARIZONA PUBLIC SERVICE CHOLLA POV	EXEMPT	56	49	6	8/30/1973	6/10/1982	32	0	NO	A	
613153		A18019026DAB	AZ PUBLIC SERVICE,	EXEMPT	92	80	6	9/4/1973	6/10/1982	40	0	NO		
613154		A18019022DCA	AZ PUBLIC SERVICE,	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	0	NO		
613163		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO		
613164		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	44	28	1	10/31/1978	6/10/1982	28	0	NO		
613165		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	177	88	1	11/1/1978	6/10/1982	62	0	NO		
613166		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO		
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978	6/10/1982	54	0	NO		
613168		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	50	33	2	10/31/1978	6/10/1982	1	0	NO		
613169		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	154	114	1		6/10/1982	29	0	NO		
613170		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	102	87	1		6/10/1982	27	0	NO		
613171		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	292	277	2		6/10/1982	74	0	NO		
613172		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	18	1	3/21/1979	6/10/1982	9	0	NO		
613173		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/22/1979	6/10/1982	19	0	NO		
613174		A18019014DAA	AZ PUBLIC SERVICE,	EXEMPT	80	48	1	3/20/1979	6/10/1982	52	0	NO		
613175		A18019014DDB	AZ PUBLIC SERVICE,	EXEMPT	81	41	1	3/12/1979	6/10/1982	30	0	NO		
613176		A18019014DAC	AZ PUBLIC SERVICE,	EXEMPT	80	53	1	8/21/1979	6/10/1982	77	0	NO		
613177		A18019013CAA	AZ PUBLIC SERVICE,	EXEMPT	62	40	1	3/9/1979	6/10/1982	32	0	NO		
613178		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	39	0	NO		
613179		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	41	0	NO		
613180		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	54	31	1	3/23/1979	6/10/1982	33	0	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	57	25	1	3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	53	28	1	2/26/1979	6/10/1982	33	0	NO		
613183		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/8/1979	6/10/1982	40	0	NO		
613184		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/7/1979	6/10/1982	32	0	NO		
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	18	0	NO		
613186		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	3	0	NO		

613187		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	25	1	2/24/1979	6/10/1982	0	0	NO		
613188		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	21	1	2/23/1979	6/10/1982	21	0	NO		
613189		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	31	1	2/22/1979	6/10/1982	7	0	NO		
613190		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979	6/10/1982	0	0	NO		
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979	6/10/1982	5	0	NO		
613192		A18019023ABA	AZ PUBLIC SERVICE,	EXEMPT	50	27	1	2/27/1979	6/10/1982	12	0	NO		
613193		A18019025DAA	AZ PUBLIC SERVICE,	EXEMPT	26	16	1		6/10/1982	16	0	NO		
613194		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	56	41	1		6/10/1982	17	0	NO		
613195		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	77	57	1		6/10/1982	18	0	NO		
613196		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	146	133	2		6/10/1982	27	0	NO		
613197		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	92	52	1		6/10/1982	70	0	NO		
613198		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	191	175	2		6/13/1982	69	0	NO		
613199		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	112	32	1		6/10/1982	97	0	NO		
613200		A18019025AAD	AZ PUBLIC SERVICE,	EXEMPT	132	32	1		6/10/1982	117	0	NO		
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	32	1	4/6/1979	6/10/1982	0	0	NO		
613202		A18020030DDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	0	31	NO		
613203		A18019025AAC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	39	0	NO		
613204		A18019025ABA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/8/1979	6/10/1982	0	0	NO		
613205		A18019024DCD	AZ PUBLIC SERVICE,	EXEMPT	57	35	1	4/8/1979	6/10/1982	0	0	NO		
613206		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613207		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/26/1979	6/10/1982	53	0	NO		
613208		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613209		A18020030CDB	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	0	0	NO		
613210		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/6/1979	6/10/1982	0	0	NO		
613211		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	4/6/1979	6/10/1982	58	0	NO		
613212		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	18	0	NO		
613213		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	1	5/19/1979	6/10/1982	55	0	NO		
613214		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	2	5/16/1979	6/10/1982	96	0	NO		
613215		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	116	88	1	5/7/1979	6/10/1982	77	0	NO		
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979	6/10/1982	11	0	NO		
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/3/1979	6/10/1982	21	0	NO		
613218		A18020030BCC	AZ PUBLIC SERVICE,	EXEMPT	100	79	1	5/1/1979	6/10/1982	59	0	NO		
613220		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	4/4/1979	6/10/1982	51	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/4/1979	6/10/1982	21	0	NO		
613222		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/3/1979	6/10/1982	13	0	NO		
613223		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	80	58	1	5/8/1979	6/10/1982	57	0	NO		
613413		A18019027BBB	AZTEC LAND CO LLC	EXEMPT	840	285	10	1/1/1977	6/9/1982	14	0	NO		
613417		A18019027DDD	AZTEC LAND CO LLC	EXEMPT	900	163	10	1/1/1977	6/9/1982	14	0	NO		
613418		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	560	120	11	12/31/1977	6/9/1982	65	0	NO	X	X
613421		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	520	57	10	1/1/1977	6/9/1982	33	0	NO		
638034		A18020031BDC	HUNT,D	EXEMPT	130	40	9	10/20/1980	6/14/1982	33	25	NO		

Note: Wells registered as of January 15, 2021

ADWR Well Registry_01152021



January 16, 2021

1:288,895

0 2 4 8 mi

0 3.25 6.5 13 km

Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA,

Arizona Department of Water Resources

Registry No. (55-)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Applicaiton Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086110		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086111		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086112		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086141		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	88	88	14	1/1/1980	9/24/1997	25	0	NO	A	
086142		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086143		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086144		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
086145		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14	1/1/1980	9/24/1997	25	0	NO	A	
086146		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14	1/1/1980	9/24/1997	25	0	NO	A	
086147		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	85	85	14	1/1/1980	9/24/1997	25	0	NO	A	
086148		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
086149		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086150		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086151		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14	1/1/1980	9/24/1997	25	0	NO	A	
086152		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14	1/1/1980	9/24/1997	0	0	NO	A	
086153		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	45	45	14	1/1/1980	9/24/1997	45	0	NO	A	
205717		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
205718		A18019022DCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
205719		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	3/9/2005	10/29/2004	34		NO		X
205720		A18019023CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	45	2	3/9/2005	10/29/2004	35		NO	A	X
214839		A18019023CBD	KLEINFELDER, INC	OTHER								NO		
215540		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				6/12/2009	4/26/2007			NO		X
215541		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38		NO		X
220206		A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER					10/15/2010			NO		
220453		A18019023C00	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/9/2011	3/22/2011	42		NO		X
220454		A18019022DD0	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/10/2011	3/21/2011	40		NO		X
221778		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
221779		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
221780		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/7/2012	10/15/2012	42		NO		X
506364		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	N	X
506365		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	54	54	5	10/11/1983	9/21/1983	20	0	NO	N	X
506366		A18019024BBD	AZ PUBLIC SERVICE,	EXEMPT	118	65	5	10/21/1983	9/21/1983	26	0	NO	N	X
506367		A18019013DBD	AZ PUBLIC SERVICE,	EXEMPT	93	84	5	10/14/1983	9/21/1983	45	0	NO	N	X
506368		A18019013CDD	AZ PUBLIC SERVICE,	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X
506369		A18019023AAC	AZ PUBLIC SERVICE,	EXEMPT	39	0	0	10/26/1983	9/21/1983	0	0	NO	N	X
506370		A18019023ADA	AZ PUBLIC SERVICE,	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X
506371		A18019023DAB	AZ PUBLIC SERVICE,	EXEMPT	54	47	5	11/1/1983	9/21/1983	37	0	NO	N	X
506372		A18019023ACA	AZ PUBLIC SERVICE,	EXEMPT	94	65	5	10/4/1983	9/21/1983	32	0	NO	N	X
506586		A18019023ABB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	58	58	5	11/2/1983	11/1/1983	36	0	NO	N	X
511169		A18019023B00	HARCO CORP,	OTHER	205	205	10	5/23/1985	5/17/1985	0	0	NO	N	X
519638		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	0	0	NO	N	X
519639		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
519640		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
524566		A18019023000	AZ PUBLIC SERVICE,	OTHER	185	40	6	6/8/1989	5/17/1989	0	0	NO	N	X
533811		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	259	258	5	1/22/1992	11/26/1991	114	0	NO	N	X
533812		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	293	292	5	1/12/1992	11/26/1991	83	0	NO	N	X

533813		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	280	279	5	12/16/1991	11/26/1991	80	0	NO	N	X
533814		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	62	62	5	1/27/1992	11/26/1991	4	0	NO	N	X
533815		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
533816		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	240	238	5	12/19/1991	11/26/1991	80	0	NO	N	X
533817		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	141	140	5	2/15/1992	11/26/1991	30	0	NO	N	X
533818		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
533819		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
533820		A18020030CAA	AZ PUBLIC SERVICE,	MONITOR	96	20	5	2/15/1992	11/26/1991	30	0	NO	N	X
536055		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	18	4	7/23/1992	7/16/1992	33	0	NO	N	X
536056		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	21	0	0	7/20/1992	7/16/1992	20	0	NO	N	X
536057		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	51	0	0	7/21/1992	7/16/1992	50	0	NO	N	X
536058		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	30	0	0	7/22/1992	7/16/1992	30	0	NO	N	X
536059		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	0	0	7/28/1992	7/16/1992	33	0	NO	N	X
537495		A18020031CDC	WESTOVER, BOYD,L	EXEMPT	125	125	0	2/2/1993	12/1/1992	6	0	NO	C	X
539095		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	0	NO	C	X
539096		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/28/1993	5/12/1993	5	0	NO	C	X
539097		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539098		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539099		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	0	NO	C	X
539100		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	20	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539101		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0	7/7/1993	5/12/1993	1	0	NO	C	X
539102		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	21	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539103		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	C	X
539104		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	6/2/1993	5/12/1993	1	0	NO	C	X
539105		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539106		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539107		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539108		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539109		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539110		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539111		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539112		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539113		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539114		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539115		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539116		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539117		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539118		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539119		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539120		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539121		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539859		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		7/12/1993	0	0	NO		
539860		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/21/1993	7/12/1993	25	0	NO		X
539861		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/23/1993	7/12/1993	25	0	NO		X
539862		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/22/1993	7/12/1993	25	0	NO		X
539863		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	35	35	5	7/25/1993	7/12/1993	25	0	NO		X
539864		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/24/1993	7/12/1993	25	0	NO		X
539986		A18020031BBB	HUNT, BOYCE,B	EXEMPT	130	30	61	9/7/1993	7/16/1993	105	0	NO	C	X
540668		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	45	4	9/23/1993	9/15/1993	23	0	NO	N	X
540669		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		9/15/1993	0	0	NO	N	

540670		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
540671		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
540672		A18019022DDB	AZ PUBLIC SERVICE,	MONITOR	45	45	4	9/24/1993	9/15/1993	18	0	NO	N	X
541134	345512110151701	A18020031ACC	KEMPTON, CARL,	EXEMPT	160	100	6	11/8/1993	10/20/1993	115	0	NO	C	X
546245		A18019023CDA	APS,	OTHER	187	187	6	12/9/1994	10/28/1994	0	0	NO	N	X
547033		A18019023CDD	APS,	OTHER	25	0	0	1/9/1995	12/30/1994	25	0	NO	N	X
547034		A18019023CDD	APS,	MONITOR	46	45	4	1/9/1995	12/30/1994	25	0	NO	N	X
547035		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/10/1995	12/30/1994	25	0	NO	A	X
547036		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/11/1995	12/30/1994	25	0	NO	A	X
547037		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
547038		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
547039		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
547253		A18020030000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	37	0	0	6/7/1995	6/2/1995	0	0	NO	N	X
547254		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	50	0	0	6/14/1995	6/2/1995	0	0	NO	N	X
553267		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	49	49	5	12/21/1995	11/30/1995	2	25	NO	X	X
553268		A18020030CCA	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/30/1995	0	0	NO	N	
553269		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	45	45	4	12/19/1995	11/30/1995	9	0	NO	N	X
553270		A18019036AAB	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/30/1995	0	0	NO	N	
553271		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	20	4	12/18/1995	11/30/1995	29	0	NO	N	X
560489		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	30	0	4	2/11/1997	11/26/1996	29	0	NO	N	X
579540		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	40	30	2	3/23/2000	2/8/2000	42		NO		X
579541		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2	3/28/2000	2/8/2000	27		NO		X
579542		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	62	52	2	3/22/2000	2/8/2000			NO		X
579543		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/27/2000	2/8/2000	25		NO		X
579544		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/23/2000	2/8/2000	37		NO		X
579545		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	104	90	2	3/20/2000	2/8/2000	90		NO		X
579546		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	83	73	2	3/21/2000	2/8/2000	46		NO		X
582885		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
582886		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
582887		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
582888		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
594796		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					9/27/2002			NO		
594797		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER					9/27/2002			NO		
613088		A18019026ACB	AZ PUBLIC SERVICE,	NON-EXEMPT	595	695	30	1/1/1961	6/10/1982	0	1200	YES		
613089	345434110171201	A18019036CCC	AZ PUBLIC SERVICE,	NON-EXEMPT	350	55	10	12/1/1961	6/10/1982	27	950	YES	X	
613090	345434110170501	A18019036CCD	AZ PUBLIC SERVICE,	NON-EXEMPT	350	60	24	3/8/1962	6/10/1982	37	2000	YES		
613125		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	45	0	2		6/10/1982	24	0	NO		
613126		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	6	0	2		6/10/1982	2	0	NO		
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	0	0	NO		
613128		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	1	0	NO		
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0		6/10/1982	2	0	NO		
613130		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	15	0	0		6/10/1982	15	0	NO		
613131		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	20	0	NO		
613132		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	2	0	NO		
613133		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	17	0	NO		
613134		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	17	0	NO		
613135		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	8	0	NO		
613136		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	6	0	0		6/10/1982	1	0	NO		
613137		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	1	0	NO		
613138		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	0	0	NO		

613139		A18019026ACC	AZ PUBLIC SERVICE,	EXEMPT	14	0	0		6/10/1982	12	0	NO		
613140		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	18	0	NO		
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO		
613142		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	35	0	0		6/10/1982	13	0	NO		
613145		A18019026CBB	AZ PUBLIC SERVICE,	EXEMPT	570	0	0	1/1/1959	6/10/1982	30	0	NO		
613148		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO		
613149	345613110180601	A18019026BBA	AZ PUBLIC SERVICE,	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO		
613150		A18019035BDB	AZ PUBLIC SERVICE,	EXEMPT	57	50	6	8/23/1973	6/10/1982	45	0	NO		
613151		A18019026CAA	AZ PUBLIC SERVICE,	EXEMPT	57	53	6	8/28/1973	6/10/1982	40	0	NO		
613152		A18019025CDC	ARIZONA PUBLIC SERVICE CHOLLA PO	EXEMPT	56	49	6	8/30/1973	6/10/1982	32	0	NO	A	
613153		A18019026DAB	AZ PUBLIC SERVICE,	EXEMPT	92	80	6	9/4/1973	6/10/1982	40	0	NO		
613154		A18019022DCA	AZ PUBLIC SERVICE,	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	0	NO		
613163		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO		
613164		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	44	28	1	10/31/1978	6/10/1982	28	0	NO		
613165		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	177	88	1	11/1/1978	6/10/1982	62	0	NO		
613166		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO		
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978	6/10/1982	54	0	NO		
613168		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	50	33	2	10/31/1978	6/10/1982	1	0	NO		
613169		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	154	114	1		6/10/1982	29	0	NO		
613170		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	102	87	1		6/10/1982	27	0	NO		
613171		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	292	277	2		6/10/1982	74	0	NO		
613172		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	18	1	3/21/1979	6/10/1982	9	0	NO		
613173		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/22/1979	6/10/1982	19	0	NO		
613174		A18019014DAA	AZ PUBLIC SERVICE,	EXEMPT	80	48	1	3/20/1979	6/10/1982	52	0	NO		
613175		A18019014DDB	AZ PUBLIC SERVICE,	EXEMPT	81	41	1	3/12/1979	6/10/1982	30	0	NO		
613176		A18019014DAC	AZ PUBLIC SERVICE,	EXEMPT	80	53	1	8/21/1979	6/10/1982	77	0	NO		
613177		A18019013CAA	AZ PUBLIC SERVICE,	EXEMPT	62	40	1	3/9/1979	6/10/1982	32	0	NO		
613178		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	39	0	NO		
613179		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	41	0	NO		
613180		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	54	31	1	3/23/1979	6/10/1982	33	0	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	57	25	1	3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	53	28	1	2/26/1979	6/10/1982	33	0	NO		
613183		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/8/1979	6/10/1982	40	0	NO		
613184		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/7/1979	6/10/1982	32	0	NO		
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	18	0	NO		
613186		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	3	0	NO		
613187		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	25	1	2/24/1979	6/10/1982	0	0	NO		
613188		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	21	1	2/23/1979	6/10/1982	21	0	NO		
613189		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	31	1	2/22/1979	6/10/1982	7	0	NO		
613190		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979	6/10/1982	0	0	NO		
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979	6/10/1982	5	0	NO		
613192		A18019023ABA	AZ PUBLIC SERVICE,	EXEMPT	50	27	1	2/27/1979	6/10/1982	12	0	NO		
613193		A18019025DAA	AZ PUBLIC SERVICE,	EXEMPT	26	16	1		6/10/1982	16	0	NO		
613194		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	56	41	1		6/10/1982	17	0	NO		
613195		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	77	57	1		6/10/1982	18	0	NO		
613196		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	146	133	2		6/10/1982	27	0	NO		
613197		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	92	52	1		6/10/1982	70	0	NO		
613198		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	191	175	2		6/13/1982	69	0	NO		
613199		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	112	32	1		6/10/1982	97	0	NO		
613200		A18019025AAD	AZ PUBLIC SERVICE,	EXEMPT	132	32	1		6/10/1982	117	0	NO		

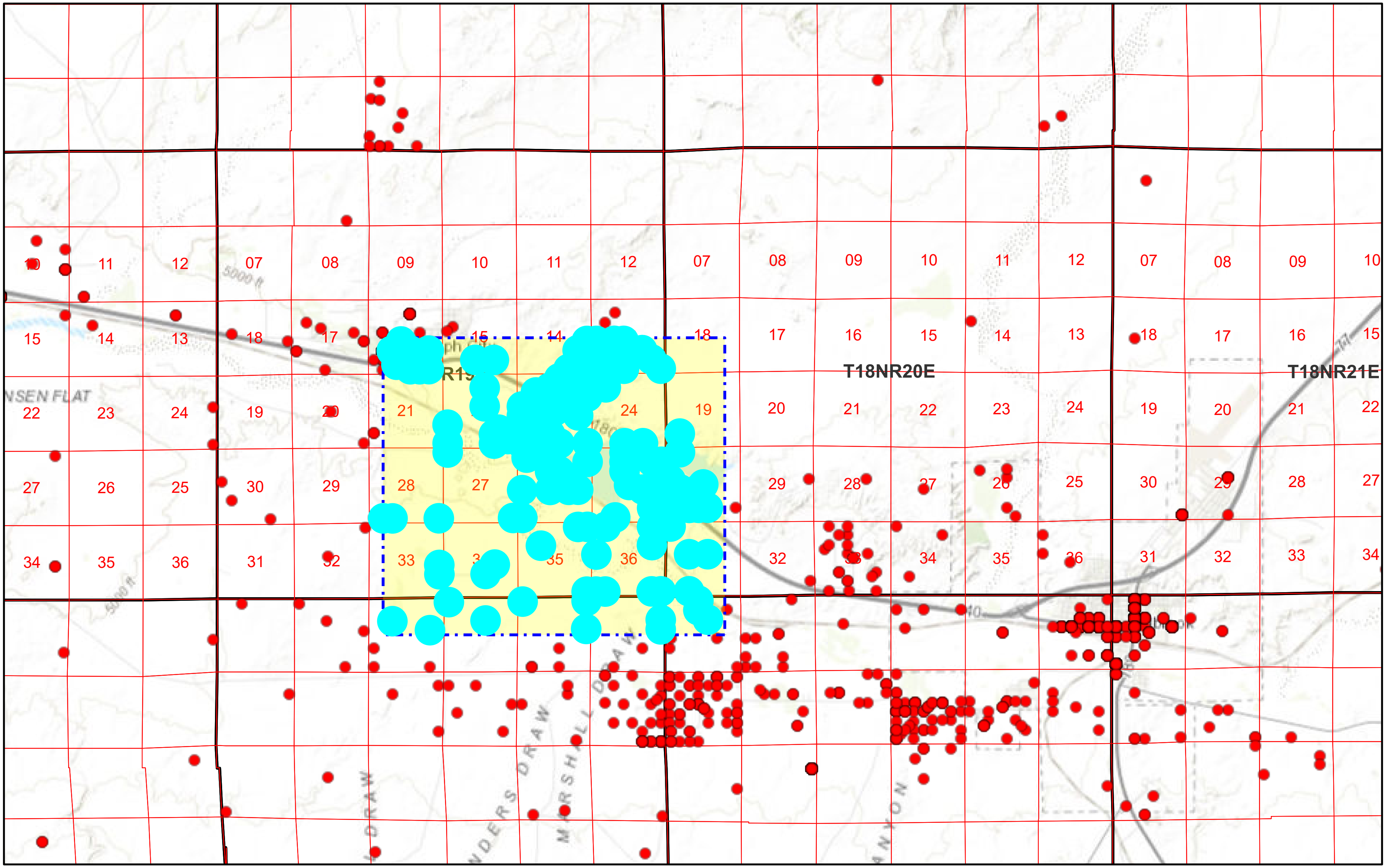
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	32	1	4/6/1979	6/10/1982	0	0	NO		
613203		A18019025AAC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	39	0	NO		
613204		A18019025ABA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/8/1979	6/10/1982	0	0	NO		
613205		A18019024DCD	AZ PUBLIC SERVICE,	EXEMPT	57	35	1	4/8/1979	6/10/1982	0	0	NO		
613206		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613207		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/26/1979	6/10/1982	53	0	NO		
613208		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613209		A18020030CDB	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	0	0	NO		
613210		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/6/1979	6/10/1982	0	0	NO		
613211		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	4/6/1979	6/10/1982	58	0	NO		
613212		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	18	0	NO		
613213		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	1	5/19/1979	6/10/1982	55	0	NO		
613214		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	2	5/16/1979	6/10/1982	96	0	NO		
613215		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	116	88	1	5/7/1979	6/10/1982	77	0	NO		
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979	6/10/1982	11	0	NO		
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/3/1979	6/10/1982	21	0	NO		
613218		A18020030BCC	AZ PUBLIC SERVICE,	EXEMPT	100	79	1	5/1/1979	6/10/1982	59	0	NO		
613220		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	4/4/1979	6/10/1982	51	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/4/1979	6/10/1982	21	0	NO		
613222		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/3/1979	6/10/1982	13	0	NO		
613223		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	80	58	1	5/8/1979	6/10/1982	57	0	NO		
613417		A18019027DDD	AZTEC LAND CO LLC	EXEMPT	900	163	10	1/1/1977	6/9/1982	14	0	NO		
613418		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	560	120	11	12/31/1977	6/9/1982	65	0	NO	X	X
613421		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	520	57	10	1/1/1977	6/9/1982	33	0	NO		
638034		A18020031BDC	HUNT,D	EXEMPT	130	40	9	10/20/1980	6/14/1982	33	25	NO		
906362	345435110171001	A18019036CCC	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					2/1/2007			YES		
906363		A18019036DDC	ARIZONA PUBLIC SERVICE CORPORATI	NON-EXEMPT					2/1/2007			YES		
906364		A18019035AAB	ARIZONA PUBLIC SERVICE CORPORATI	NON-EXEMPT	481	470	20	7/15/2007	2/1/2007	30		YES		X
906365		A18019036BBA	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	470	17	8/11/2007	2/1/2007	34		YES		X
906812	345433110162101	A18019036DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					4/12/2007			YES		
906917		A18019023CCD	ARIZONA PUBLIC SERVICE CO	OTHER					5/4/2007			NO		
907167		A18019023DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					6/11/2007			YES		
907561		A18019026CCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	8	9/7/2007	8/7/2007	35		NO		X
907565		A18019034DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/22/2007	8/7/2007			NO		X
907567		A18019036BCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/19/2007	8/7/2007	38		NO		X
909987		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY (	MONITOR	290	280	5	11/18/2008	10/30/2008			NO		X
909988		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY (	MONITOR	385	380	5	11/15/2008	10/30/2008	140		NO		X
910007		A18019025CDC	ARIZONA PUBLIC SERVICE CO	MONITOR	60		10	11/21/2008	11/6/2008			NO		X
910008		A18019026DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	90	65	5	11/22/2008	11/6/2008	30		NO		X
910009		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	75	70	5	11/20/2008	11/6/2008	45		NO		X
910010		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5	12/4/2008	11/6/2008	45		NO		X
910011		A18019026DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8	11/23/2008	11/6/2008	38		NO		X
910012		A18019035AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	46	40	8	11/24/2008	11/6/2008	34		NO		X
910013		A18019025BDA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5	11/21/2008	11/6/2008	34		NO		X
910623		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPOR	MONITOR	41	41	2	4/1/2009	4/8/2009	25		NO	A	X
910624		A18019023000	ARIZONA DEPARTMENT OF TRANSPOR	OTHER	40		8	4/1/2009	4/8/2009	25		NO	A	X
912800		A18019013CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					12/27/2010			NO		I
913769		A18019025BAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011	11/3/2011	28		NO		X
913770		A18019023CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59		11/10/2011	11/3/2011	39		NO		X
913771		A18019025DBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				11/11/2011	11/3/2011			NO		X

913772		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183			11/12/2011	11/3/2011			NO	A	X
913983		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913984		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913985		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913993		A18019013DDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/18/2012			NO		
917009		A18019023DCC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014			NO	A	X
917515		A18019022D00	BNSF RAILWAYS	OTHER	100		8	11/4/2014	11/6/2014	24		NO	A	X
917536		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	61		8	11/20/2014	11/13/2014	32		NO	A	X
917606		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPOR	MONITOR	60	60	2	12/10/2014	12/8/2014	30		NO	A	X
917710		A18019023000	ARIZONA DEPARTMENT OF TRANSPOR	OTHER	40			12/11/2014	1/14/2015	30		NO	A	X
918638		A18019025CDC	ARIZONA PUBLIC SERVICE	MONITOR	57	55	5	11/18/2015	9/11/2015	38		NO		X
918639		A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015	9/11/2015			NO		X
918640		A18019025ADD	ARIZONA PUBLIC SERVICE	MONITOR	14	12	4	9/18/2015	9/11/2015			NO		X
918641		A18020030CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/18/2015	9/11/2015			NO		X
918645		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	13			9/19/2015	9/11/2015			NO		X
918646		A18019013CAB	ARIZONA PUBLIC SERVICE	MONITOR	370	365	5	10/12/2015	9/11/2015			NO		X
918647		A18019013CBB	ARIZONA PUBLIC SERVICE	MONITOR	425	423	5	10/21/2015	9/11/2015	197		NO		X
918651		A18019023AAB	ARIZONA PUBLIC SERVICE	MONITOR					9/11/2015			NO		
918657		A18019024BBC	ARIZONA PUBLIC SERVICE	MONITOR	83	70	4	9/21/2015	9/14/2015			NO		X
918658		A18019023CBD	ARIZONA PUBLIC SERVICE	MONITOR	97	84	5	11/17/2015	9/14/2015	42		NO		X
918659		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/13/2015	9/14/2015	42		NO		X
918660		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/8/2015	9/14/2015	41		NO		X
918661		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/7/2015	9/14/2015	41		NO		X
918701		A18019013DDB	ARIZONA PUBLIC SERVICES	MONITOR	60	55	5	10/3/2015	9/30/2015			NO		X
919786		A18019023BAD	ARIZONA PUBLIC SERVICES (APS)	MONITOR	60	60	4	8/24/2016	8/11/2016	40		NO		X
919787		A18019023BCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/25/2016	8/11/2016	40		NO		X
919788		A18019023CCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/26/2016	8/11/2016	40		NO		X
919789		A18019026AAD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/29/2016	8/11/2016	42		NO		X
919790		A18019024CDD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/23/2016	8/11/2016	42		NO		X
919791		A18019023DAB	ARIZONA PUBLIC SERVICE (APS)	MONITOR	120	118	4	8/19/2016	8/11/2016	42		NO		X
921016		A18019022DDB	ARIZONA PUBLIC SERVICE - APS	MONITOR	126	119	4	11/4/2017	10/25/2017	50		NO		X
921042		A18019022DDB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/5/2017	11/3/2017	60		NO	A	X
921058		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/15/2017	11/8/2017	37		NO		X
921059		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/16/2017	11/8/2017	36		NO		X
921060		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
921061		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
921392		A18019026BB0	ARIZONA PUBLIC SERVICE	OTHER	51		6	2/27/2018	2/28/2018			NO		X
922299		A18019025DAB	ARIZONA PUBLIC SERVICE	MONITOR	25	19	4	11/14/2018	11/7/2018	14		NO		X
922300		A18020030CBC	ARIZONA PUBLIC SERVICE	MONITOR	60	49	4	11/26/2018	11/7/2018	29		NO		X
922301		A18019025DDB	ARIZONA PUBLIC SERVICE	MONITOR	50	45		11/15/2018	11/7/2018	34		NO		X
922954		A18019023CCD	ARIZONA PUBLIC SERVICE	MONITOR	86	70	4	5/22/2019	5/10/2019	46		NO		X
922955		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR	96	82	4	5/17/2019	5/10/2019	46		NO		X
923204		A18019015DCA	LOVES TRAVEL STOP AND COUNTRY S	MONITOR					7/24/2019			NO		
923205		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STO	MONITOR					7/24/2019			NO		
923206		A18019015DCA	LOVES TRAVEL STOP & COUNRY STOR	MONITOR					7/24/2019			NO		
923207		A18019015DCA	LOVES TRAVEL SHOP & COUNTRY STO	MONITOR					7/24/2019			NO		
923346		A18019025BAD	ARIZONA PUBLIC SERVICE	MONITOR	50			9/18/2019	9/9/2019			NO		X
923582		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	77	75	3	11/22/2019	11/6/2019			NO		X
923598		A18019014DDA	ARIZONA PUBLIC SERVICE	OTHER	62			11/19/2019	11/12/2019	9		NO	A	X
923618		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	53		3	11/19/2019	11/18/2019			NO		X

925215		A18020030CBD	ARIZONA PUBLIC SERVICES	OTHER					12/2/2020			NO		
925216		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925217		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925218		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925219		A18020030000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925220		A18019025000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925226		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					12/4/2020			NO		
925227		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					12/4/2020			NO		
925727		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STO	MONITOR					3/11/2021			NO		
925728		A18019015DCA	LOVES TRAVELS STOPS & COUNTRY ST	MONITOR					3/11/2021			NO		
925729		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STO	MONITOR					3/11/2021			NO		
925730		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STO	MONITOR					3/11/2021			NO		

Note: Wells registered as of March 30, 2021

ADWR Well Registry_033021



March 30, 2021

Well Registry
Township
Section
County

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA,

Arizona Department of Water Resources

Registry No. (55-)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Applicaiton Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086142		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086146		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14	1/1/1980	9/24/1997	25	0	NO	A	
086152		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14	1/1/1980	9/24/1997	0	0	NO	A	
482992		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER	51	46	1		4/29/2021			NO	A	
506369		A18019023AAC	AZ PUBLIC SERVICE,	EXEMPT	39	0	0	10/26/1983	9/21/1983	0	0	NO	N	X
529607		A18019016DCA	RADIAN CORP,	MONITOR	15	10	2	5/28/1991	5/20/1991	13	0	NO	N	X
533819		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
539111		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539112		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539117		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539864		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/24/1993	7/12/1993	25	0	NO		X
540668		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	45	4	9/23/1993	9/15/1993	23	0	NO	N	X
573582		A17020006BAA	BOYD L WESTOVER	EXEMPT					3/4/1999			NO		
579541		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2	3/28/2000	2/8/2000	27		NO		X
613089	345434110171201	A18019036CCC	AZ PUBLIC SERVICE,	NON-EXEMPT	350	55	10	12/1/1961	6/10/1982	27	950	YES	X	
613128		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	1	0	NO		
613153		A18019026DAB	AZ PUBLIC SERVICE,	EXEMPT	92	80	6	9/4/1973	6/10/1982	40	0	NO		
613176		A18019014DAC	AZ PUBLIC SERVICE,	EXEMPT	80	53	1	8/21/1979	6/10/1982	77	0	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	57	25	1	3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	53	28	1	2/26/1979	6/10/1982	33	0	NO		
613192		A18019023ABA	AZ PUBLIC SERVICE,	EXEMPT	50	27	1	2/27/1979	6/10/1982	12	0	NO		
613199		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	112	32	1		6/10/1982	97	0	NO		
613206		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613208		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613212		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	18	0	NO		
613218		A18020030BCC	AZ PUBLIC SERVICE,	EXEMPT	100	79	1	5/1/1979	6/10/1982	59	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/4/1979	6/10/1982	21	0	NO		
905036		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
906363		A18019036DDC	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT					2/1/2007			YES		
906365		A18019036BBA	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	470	17	8/11/2007	2/1/2007	34		YES		X
909605		A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	30	2	5/29/2008	8/20/2008	20		NO		X
909987		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PL	MONITOR	290	280	5	11/18/2008	10/30/2008			NO		X
909988		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWER PL	MONITOR	385	380	5	11/15/2008	10/30/2008	140		NO		X
910007		A18019025CDC	ARIZONA PUBLIC SERVICE CO	MONITOR	60		10	11/21/2008	11/6/2008			NO		X
910008		A18019026DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	90	65	5	11/22/2008	11/6/2008	30		NO		X
910249		A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	22				1/9/2009			NO		X
910324		A17020006BAD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	400	240	21	4/10/2009	1/19/2009	29		NO		X
910624		A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40		8	4/1/2009	4/8/2009	25		NO	A	X
917536		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	61		8	11/20/2014	11/13/2014	32		NO	A	X
918651		A18019023AAB	ARIZONA PUBLIC SERVICE	MONITOR					9/11/2015			NO		
918657		A18019024BBC	ARIZONA PUBLIC SERVICE	MONITOR	83	70	4	9/21/2015	9/14/2015			NO		X
919786		A18019023BAD	ARIZONA PUBLIC SERVICES (APS)	MONITOR	60	60	4	8/24/2016	8/11/2016	40		NO		X
919788		A18019023CCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/26/2016	8/11/2016	40		NO		X
921060		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
925728		A18019015DCA	LOVES TRAVELS STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021			NO		X
925730		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	35	36	2		3/11/2021	6		NO		X
926108		A18019022DBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	67	48	4	4/29/2021	4/22/2021	37		NO		X
926120		A18020030CCB	ARIZONA PUBLIC SERVICE	MONITOR	27	19	4	5/3/2021	4/23/2021	4		NO		X
086153		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	45	45	14	1/1/1980	9/24/1997	45	0	NO	A	

205717		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
220453		A18019023C00	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/9/2011	3/22/2011	42		NO		X
221778		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
221780		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/7/2012	10/15/2012	42		NO		X
502294		A18019016DCD	GC RICE 3N, LLC	EXEMPT	270	229	6	4/1/1982	3/16/1982	20	0	NO	X	X
505119		A18019016DDC	RANDALL, A BLAINE,	NON-EXEMPT	450	280	12	8/15/1983	4/5/1983	40	800	NO	X	X
506368		A18019013CDD	AZ PUBLIC SERVICE,	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X
539109		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539120		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539859		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		7/12/1993	0	0	NO		
539986		A18020031BBB	HUNT, BOYCE,B	EXEMPT	130	30	61	9/7/1993	7/16/1993	105	0	NO	C	X
540669		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
540670		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
546245		A18019023CDA	APS,	OTHER	187	187	6	12/9/1994	10/28/1994	0	0	NO	N	X
547033		A18019023CDD	APS,	OTHER	25	0	0	1/9/1995	12/30/1994	25	0	NO	N	X
547038		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
569370		A17019003BBB	EL PASO NATURAL GAS CO. LLC., A KINDER MORGAN COMPANY	OTHER	500	130	8	9/27/1998	6/19/1998			NO	A	X
579545		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	104	90	2	3/20/2000	2/8/2000	90		NO		X
582885		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
613130		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	15	0	0		6/10/1982	15	0	NO		
613132		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	2	0	NO		
613136		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	6	0	0		6/10/1982	1	0	NO		
613139		A18019026ACC	AZ PUBLIC SERVICE,	EXEMPT	14	0	0		6/10/1982	12	0	NO		
613147		A18019028DDD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		6/10/1982	0	0	NO		
613148		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO		
613149	345613110180601	A18019026BBA	AZ PUBLIC SERVICE,	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO		
613163		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO		
613179		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	41	0	NO		
613186		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	3	0	NO		
613194		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	56	41	1		6/10/1982	17	0	NO		
613200		A18019025AAD	AZ PUBLIC SERVICE,	EXEMPT	132	32	1		6/10/1982	117	0	NO		
613211		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	4/6/1979	6/10/1982	58	0	NO		
613222		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/3/1979	6/10/1982	13	0	NO		
613403	345411110161601	A17019001ADA	AZTEC LAND CO LLC	NON-EXEMPT	390	278	24	11/1/1976	6/9/1982	39	700	YES	X	
613415		A17019001ADD	AZTEC LAND CO LLC	EXEMPT	755	50	10	1/1/1977	6/9/1982	45	0	NO		
905035		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
906812	345433110162101	A18019036DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					4/12/2007			YES		
907565		A18019034DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/22/2007	8/7/2007			NO		X
907571		A17019002BBB	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	8/28/2007	8/7/2007			NO		X
910012		A18019035AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	46	40	8	11/24/2008	11/6/2008	34		NO		X
913771		A18019025DBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				11/11/2011	11/3/2011			NO		X
913984		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
913993		A18019013DDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/18/2012			NO		
917515		A18019022D00	BNSF RAILWAYS	OTHER	100		8	11/4/2014	11/6/2014	24		NO	A	X
919787		A18019023BCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/25/2016	8/11/2016	40		NO		X
922299		A18019025DAB	ARIZONA PUBLIC SERVICE	MONITOR	25	19	4	11/14/2018	11/7/2018	14		NO		X
923206		A18019015DCA	LOVES TRAVEL STOP & COUNRY STORE, INC.	MONITOR					7/24/2019			NO		
923618		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	53		3	11/19/2019	11/18/2019			NO		X
926099		A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	130	130	6	5/13/2021	4/22/2021	4		NO		X
926104		A18019023CAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	64	64	4	5/1/2021	4/22/2021	35		NO		X
926240		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	51	47	6	5/15/2021	5/14/2021	10		NO		X
086112		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
215541		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38		NO		X

220206		A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER					10/15/2010			NO		
220454		A18019022DD0	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/10/2011	3/21/2011	40		NO		X
482995		A18020030BDB	ARIZONA PUBLIC SERVICE	MONITOR	56	55	1		4/29/2021			NO	A	
506370		A18019023ADA	AZ PUBLIC SERVICE,	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X
506371		A18019023DAB	AZ PUBLIC SERVICE,	EXEMPT	54	47	5	11/1/1983	9/21/1983	37	0	NO	N	X
533814		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	62	62	5	1/27/1992	11/26/1991	4	0	NO	N	X
533815		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
536056		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	21	0	0	7/20/1992	7/16/1992	20	0	NO	N	X
536059		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	0	0	7/28/1992	7/16/1992	33	0	NO	N	X
539103		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	A	X
539106		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
540042		A18019016DCA	RADIAN CORP,	MONITOR	20	20	4	9/16/1993	8/17/1993	13	0	NO	N	X
540672		A18019022DBD	ARIZONA PUBLIC SERVICE	MONITOR	45	45	4	9/24/1993	9/15/1993	18	0	NO	A	X
547036		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/11/1995	12/30/1994	25	0	NO	A	X
547254		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	50	0	0	6/14/1995	6/2/1995	0	0	NO	N	X
552869		A17020005CBB	LOPEZ, ODELL,	EXEMPT	100	41	6	12/30/1995	10/16/1995	34	20	NO	X	X
553268		A18020030CCB	ARIZONA PUBLIC SERVICE	MONITOR	50	50	4		11/30/1995	0	0	NO	A	
580185		A17020006BAA	BOYD L WESTOVER	EXEMPT	173	38	6	8/15/2000	3/16/2000	26		NO		X
582886		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
594797		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER					9/27/2002			NO		
613126		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	6	0	2		6/10/1982	2	0	NO		
613138		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	0	0	NO		
613166		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO		
613169		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	154	114	1		6/10/1982	29	0	NO		
613170		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	102	87	1		6/10/1982	27	0	NO		
613198		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	191	175	2		6/13/1982	69	0	NO		
613207		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/26/1979	6/10/1982	53	0	NO		
613220		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	4/4/1979	6/10/1982	51	0	NO		
613413		A18019027BBB	AZTEC LAND CO LLC	EXEMPT	840	285	10	1/1/1977	6/9/1982	14	0	NO		
909085		A18019022CBC	AZTEC LAND & CATTLE CO LTD.	OTHER	90		7	5/28/2008	5/23/2008			NO	A	X
910250		A18019015CDA	LOVE'S COUNTY STORES	MONITOR	20				1/9/2009			NO		X
910623		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	41	41	2	4/1/2009	4/8/2009	25		NO	A	X
913770		A18019023CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59		11/10/2011	11/3/2011	39		NO		X
913772		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183			11/12/2011	11/3/2011			NO	A	X
913985		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
918658		A18019023CBD	ARIZONA PUBLIC SERVICE	MONITOR	97	84	5	11/17/2015	9/14/2015	42		NO		X
921016		A18019022DDB	ARIZONA PUBLIC SERVICE - APS	MONITOR	126	119	4	11/4/2017	10/25/2017	50		NO		X
921058		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/15/2017	11/8/2017	37		NO		X
921061		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
922301		A18019025DDB	ARIZONA PUBLIC SERVICE	MONITOR	50	45		11/15/2018	11/7/2018	34		NO		X
923207		A18019015DCA	LOVES TRAVEL SHOP & COUNTRY STORE, INC.	MONITOR					7/24/2019			NO		
926111		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	50	2	5/15/2021	4/22/2021	19		NO		X
926116		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	19	18	4	5/13/2021	4/22/2021	1		NO		X
086110		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086149		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086150		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086151		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14	1/1/1980	9/24/1997	25	0	NO	A	
205720		A18019023CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	45	2	3/9/2005	10/29/2004	35		NO	A	X
506365		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	54	54	5	10/11/1983	9/21/1983	20	0	NO	N	X
533812		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	293	292	5	1/12/1992	11/26/1991	83	0	NO	N	X
533818		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
536055		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	18	4	7/23/1992	7/16/1992	33	0	NO	N	X
537495		A18020031CDC	WESTOVER, BOYD,L	EXEMPT	125	125	0	2/2/1993	12/1/1992	6	0	NO	C	X
539097		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X

539110		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539121		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
566113		A17020005CBA	MARCELINO & ROSA PONCE	EXEMPT	125	52	8	7/24/1998	12/2/1997	41		NO		X
579543		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/27/2000	2/8/2000	25		NO		X
579546		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	83	73	2	3/21/2000	2/8/2000	46		NO		X
594796		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					9/27/2002			NO		
608472	345637110191901	A18019022CBC	LARRY E. & AVA RACHELE BALDWIN	NON-EXEMPT	440	343	10	3/17/1967	5/10/1982	10	1000	NO		
613090	345434110170501	A18019036CCD	AZ PUBLIC SERVICE,	NON-EXEMPT	350	60	24	3/8/1962	6/10/1982	37	2000	YES		
613135		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	8	0	NO		
613142		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	35	0	0		6/10/1982	13	0	NO		
613151		A18019026CAA	AZ PUBLIC SERVICE,	EXEMPT	57	53	6	8/28/1973	6/10/1982	40	0	NO		
613152		A18019025CDC	ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT	EXEMPT	56	49	6	8/30/1973	6/10/1982	32	0	NO	A	
613164		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	44	28	1	10/31/1978	6/10/1982	28	0	NO		
613175		A18019014DDB	AZ PUBLIC SERVICE,	EXEMPT	81	41	1	3/12/1979	6/10/1982	30	0	NO		
613193		A18019025DAA	AZ PUBLIC SERVICE,	EXEMPT	26	16	1		6/10/1982	16	0	NO		
613196		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	146	133	2		6/10/1982	27	0	NO		
613210		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/6/1979	6/10/1982	0	0	NO		
613417		A18019027DDD	AZTEC LAND CO LLC	EXEMPT	900	163	10	1/1/1977	6/9/1982	14	0	NO		
620722	345414110153601	A17020006ACB	JOSEPH CITY IRRIGATION COMPANY	NON-EXEMPT	403	8	14	2/1/1948	6/14/1982	32	1009	YES	X	X
906917		A18019023CCD	ARIZONA PUBLIC SERVICE CO	OTHER					5/4/2007			NO		
907567		A18019036BCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/19/2007	8/7/2007	38		NO		X
907572		A17019004ADC	ARIZONA PUBLIC SERVICE CO	NON-EXEMPT	530	520	21	10/15/2007	8/7/2007	89		NO		X
909094		A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/30/2008	5/23/2008	20		NO		X
918638		A18019025CDC	ARIZONA PUBLIC SERVICE	MONITOR	57	55	5	11/18/2015	9/11/2015	38		NO		X
918659		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/13/2015	9/14/2015	42		NO		X
918661		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/7/2015	9/14/2015	41		NO		X
919790		A18019024CDD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/23/2016	8/11/2016	42		NO		X
922300		A18020030CBC	ARIZONA PUBLIC SERVICE	MONITOR	60	49	4	11/26/2018	11/7/2018	29		NO		X
925727		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC.	MONITOR	36	36	2	3/15/2021	3/11/2021	11		NO		X
926101		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					4/22/2021			NO		
205718		A18019022DCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
205719		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	3/9/2005	10/29/2004	34		NO		X
215540		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				6/12/2009	4/26/2007			NO		X
232663		A17019003BBB	EL PASO NATURAL GAS COMPANY, LLC., A KINDER MORGAN COMPANY	OTHER	20	490	12	9/2/2020	7/25/2020			NO	A	X
502455		A18019016DDC	RANDALL,D	NON-EXEMPT	0	0	0		3/25/1982	0	0	NO		
524566		A18019023000	AZ PUBLIC SERVICE,	OTHER	185	40	6	6/8/1989	5/17/1989	0	0	NO	N	X
533811		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	259	258	5	1/22/1992	11/26/1991	114	0	NO	N	X
533816		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	240	238	5	12/19/1991	11/26/1991	80	0	NO	N	X
539095		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	0	NO	C	X
539099		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	0	NO	C	X
539114		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539116		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539860		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/21/1993	7/12/1993	25	0	NO		X
547039		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
553267		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	49	49	5	12/21/1995	11/30/1995	2	25	NO	X	X
553270		A18019036AAB	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/30/1995	0	0	NO	N	
613133		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	17	0	NO		
613134		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	17	0	NO		
613140		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	18	0	NO		
613144		A18019028DDD	AZ PUBLIC SERVICE,	EXEMPT	374	0	12		6/10/1982	13	0	NO		
613154		A18019022DCA	AZ PUBLIC SERVICE,	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	0	NO		
613168		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	50	33	2	10/31/1978	6/10/1982	1	0	NO		
613178		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	39	0	NO		

613187		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	25	1	2/24/1979	6/10/1982	0	0	NO		
613189		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	31	1	2/22/1979	6/10/1982	7	0	NO		
613203		A18019025AAC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	39	0	NO		
613209		A18020030CDB	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	0	0	NO		
613223		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	80	58	1	5/8/1979	6/10/1982	57	0	NO		
620723	345410110153201	A17020006DBA	JOSEPH CITY IRRIGATION COMPANY	NON-EXEMPT	300	240	14	4/17/2009	6/14/1982	19	744	YES	X	X
627252		A17020006AAC	ATCHISON-TOPEKA,	NON-EXEMPT	80	80	6	2/27/1940	6/10/1982	0	0	NO		
650086		A18019022ABC	LANE,J E	NON-EXEMPT	750	750	10		7/14/1982	50	200	YES		
905034		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
905038		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
907561		A18019026CCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	8	9/7/2007	8/7/2007	35		NO		X
907562		A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	251	250	5	8/23/2007	8/7/2007			NO		X
907563		A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	502	500	9	8/23/2007	8/7/2007	66		NO		X
907660		A17019002BBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	490	21	2/7/2008	8/23/2007	67		NO		X
909097		A18019016DAC	THRIFTWAY MARKETING	MONITOR					5/23/2008			NO		
909801		A18019022CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	535	530	5	10/30/2008	9/25/2008	30		NO		X
910248		A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20	20		1/14/2009	1/9/2009			NO		X
913983		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
917710		A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40			12/11/2014	1/14/2015	30		NO	A	X
918660		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/8/2015	9/14/2015	41		NO		X
921059		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/16/2017	11/8/2017	36		NO		X
923346		A18019025BAD	ARIZONA PUBLIC SERVICE	MONITOR	50			9/18/2019	9/9/2019			NO		X
925227		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	12/9/2020	12/4/2020	40		NO		X
926097		A18019023AAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	55	55	6	5/5/2021	4/22/2021	2		NO		X
926103		A18019023ADC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	26	4	5/1/2021	4/22/2021			NO		X
926106		A18019023DAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	177	165	4	5/18/2021	4/22/2021	27		NO		X
926399		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC	MONITOR	35	36	2	6/15/2021	6/9/2021	24		NO		X
086141		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	88	88	14	1/1/1980	9/24/1997	25	0	NO	A	
086143		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086147		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	85	85	14	1/1/1980	9/24/1997	25	0	NO	A	
221779		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
506366		A18019024BBD	AZ PUBLIC SERVICE,	EXEMPT	118	65	5	10/21/1983	9/21/1983	26	0	NO	N	X
506372		A18019023ACA	AZ PUBLIC SERVICE,	EXEMPT	94	65	5	10/4/1983	9/21/1983	32	0	NO	N	X
506586		A18019023ABB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	58	58	5	11/2/1983	11/1/1983	36	0	NO	N	X
506587		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER	40	35	5	11/4/1983	11/1/1983	3	0	NO	A	X
519638		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	0	0	NO	N	X
519639		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
536057		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	51	0	0	7/21/1992	7/16/1992	50	0	NO	N	X
539096		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/28/1993	5/12/1993	5	0	NO	C	X
539102		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	21	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539107		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539108		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539118		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539861		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/23/1993	7/12/1993	25	0	NO		X
547253		A18020030000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	37	0	0	6/7/1995	6/2/1995	0	0	NO	N	X
560489		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	30	0	4	2/11/1997	11/26/1996	29	0	NO	N	X
579540		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	40	30	2	3/23/2000	2/8/2000	42		NO		X
579542		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	62	52	2	3/22/2000	2/8/2000			NO		X
613088		A18019026ACB	AZ PUBLIC SERVICE,	NON-EXEMPT	595	695	30	1/1/1961	6/10/1982	0	1200	YES		
613131		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	20	0	NO		
613137		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	1	0	NO		
613165		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	177	88	1	11/1/1978	6/10/1982	62	0	NO		
613172		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	18	1	3/21/1979	6/10/1982	9	0	NO		
613180		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	54	31	1	3/23/1979	6/10/1982	33	0	NO		

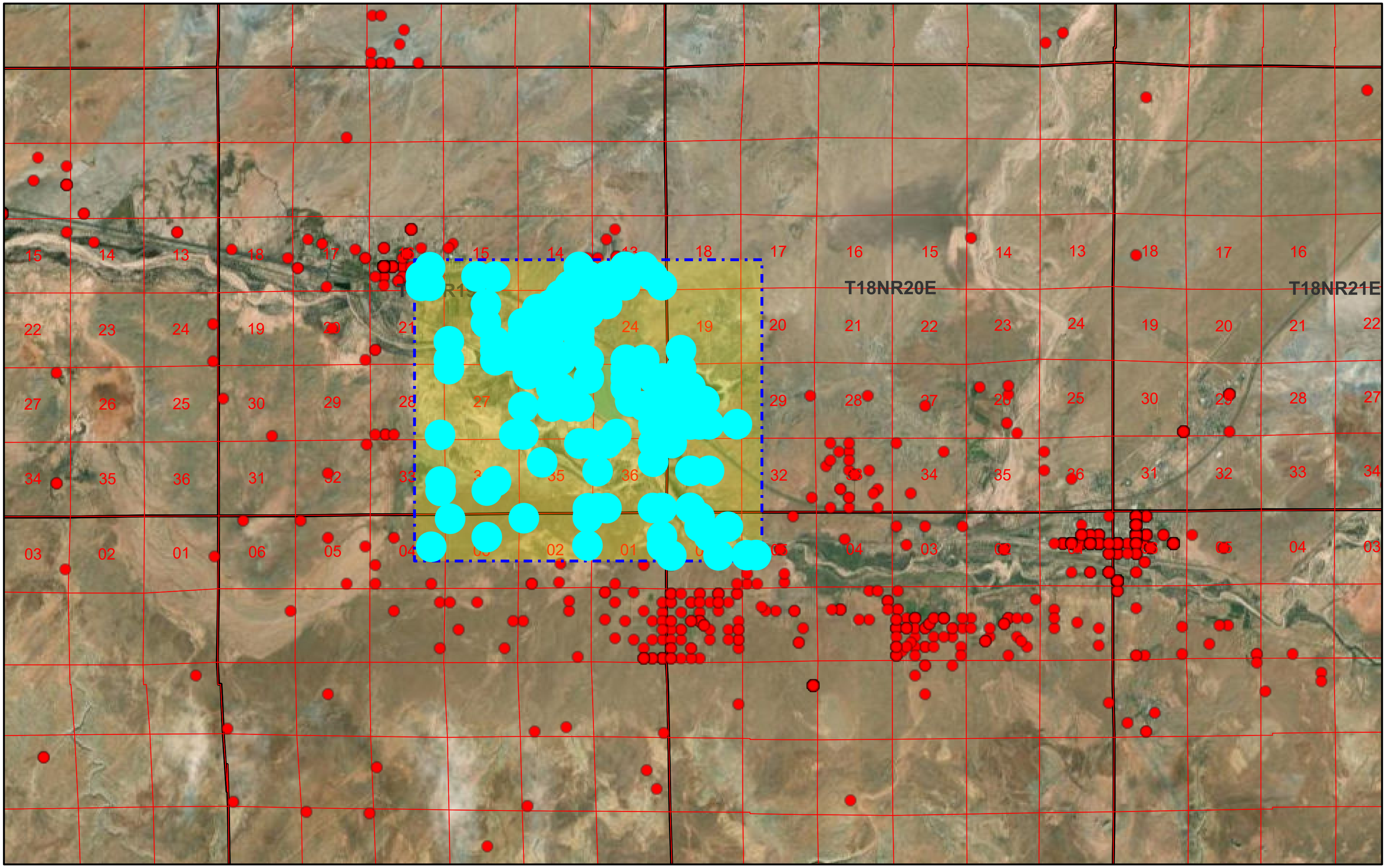
613204		A18019025ABA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/8/1979	6/10/1982	0	0	NO		
613205		A18019024DCD	AZ PUBLIC SERVICE,	EXEMPT	57	35	1	4/8/1979	6/10/1982	0	0	NO		
613215		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	116	88	1	5/7/1979	6/10/1982	77	0	NO		
613421		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	520	57	10	1/1/1977	6/9/1982	33	0	NO		
906362	345435110171001	A18019036CCC	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					2/1/2007			YES		
906364		A18019035AAB	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT	481	470	20	7/15/2007	2/1/2007	30		YES		X
909096		A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/31/2008	5/23/2008	20		NO		X
909802		A17020006CBB	ARIZONA PUBLIC SERVICE COMPANY CHOLLA	MONITOR	410	400	5	10/7/2008	9/25/2008	64		NO		X
910009		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	75	70	5	11/20/2008	11/6/2008	45		NO		X
918645		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	13			9/19/2015	9/11/2015			NO		X
919789		A18019026AAD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/29/2016	8/11/2016	42		NO		X
919791		A18019023DAB	ARIZONA PUBLIC SERVICE (APS)	MONITOR	120	118	4	8/19/2016	8/11/2016	42		NO		X
922955		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR	96	82	4	5/17/2019	5/10/2019	46		NO		X
923582		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	77	75	3	11/22/2019	11/6/2019			NO		X
923598		A18019014DDA	ARIZONA PUBLIC SERVICE	OTHER	62			11/19/2019	11/12/2019	9		NO	A	X
925215		A18020030CBD	ARIZONA PUBLIC SERVICES	OTHER					12/2/2020			NO		
925216		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925220		A18019025000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
926100		A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	84	81	6	5/3/2021	4/22/2021	19		NO		X
926102		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	29	25	6	5/16/2021	4/22/2021	10		NO		X
214839		A18019023CBD	KLEINFELDER, INC	OTHER								NO		
482994		A18020030BDB	ARIZONA PUBLIC SERVICE	MONITOR	76	76	1		4/29/2021			NO	A	
502100		A18019016DDC	BARRETT,W W	EXEMPT	280	245	5	9/22/1982	2/23/1982	35	35	NO	X	X
506367		A18019013DBD	AZ PUBLIC SERVICE,	EXEMPT	93	84	5	10/14/1983	9/21/1983	45	0	NO	N	X
511169		A18019023B00	HARCO CORP,	OTHER	205	205	10	5/23/1985	5/17/1985	0	0	NO	N	X
533820		A18020030CAA	AZ PUBLIC SERVICE,	MONITOR	96	20	5	2/15/1992	11/26/1991	30	0	NO	N	X
539098		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539100		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	20	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539104		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/2/1993	5/12/1993	1	0	NO	A	X
539113		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
540671		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
541134	345512110151701	A18020031ACC	KEMPTON, CARL,	EXEMPT	160	100	6	11/8/1993	10/20/1993	115	0	NO	C	X
547034		A18019023CDD	APS,	MONITOR	46	45	4	1/9/1995	12/30/1994	25	0	NO	N	X
547035		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/10/1995	12/30/1994	25	0	NO	A	X
553269		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	45	45	4	12/19/1995	11/30/1995	9	0	NO	N	X
579544		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/23/2000	2/8/2000	37		NO		X
582887		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
600375	345445110192501	A18019033DAA	AZTEC LAND CO. LLC.	EXEMPT	100	40	6	6/10/1946	9/28/1981	20	12	NO	N	N
613125		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	45	0	2		6/10/1982	24	0	NO		
613145		A18019026CBB	AZ PUBLIC SERVICE,	EXEMPT	570	0	0	1/1/1959	6/10/1982	30	0	NO		
613150		A18019035BDB	AZ PUBLIC SERVICE,	EXEMPT	57	50	6	8/23/1973	6/10/1982	45	0	NO		
613171		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	292	277	2		6/10/1982	74	0	NO		
613183		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/8/1979	6/10/1982	40	0	NO		
613184		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/7/1979	6/10/1982	32	0	NO		
613188		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	21	1	2/23/1979	6/10/1982	21	0	NO		
613195		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	77	57	1		6/10/1982	18	0	NO		
613197		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	92	52	1		6/10/1982	70	0	NO		
613202		A18020030DDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	0	31	NO		
613213		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	1	5/19/1979	6/10/1982	55	0	NO		
613214		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	2	5/16/1979	6/10/1982	96	0	NO		
613418		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	560	120	11	12/31/1977	6/9/1982	65	0	NO	X	X
905037		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
907167		A18019023DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					6/11/2007			YES		
907883		A17019002ADD	ARIZONA PUBLIC SERVICE CO	MONITOR	360		8	10/8/2007	9/28/2007			NO		X

909098		A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	32		5/29/2008	5/23/2008	20		NO		X
910010		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5	12/4/2008	11/6/2008	45		NO		X
910011		A18019026DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8	11/23/2008	11/6/2008	38		NO		X
910013		A18019025BDA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5	11/21/2008	11/6/2008	34		NO		X
917606		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	60	2	12/10/2014	12/8/2014	30		NO	A	X
918640		A18019025ADD	ARIZONA PUBLIC SERVICE	MONITOR	14	12	4	9/18/2015	9/11/2015			NO		X
918701		A18019013DDB	ARIZONA PUBLIC SERVICES	MONITOR	60	55	5	10/3/2015	9/30/2015			NO		X
921392		A18019026BB0	ARIZONA PUBLIC SERVICE	OTHER	51		6	2/27/2018	2/28/2018			NO		X
922954		A18019023CCD	ARIZONA PUBLIC SERVICE	MONITOR	86	70	4	5/22/2019	5/10/2019	46		NO		X
923204		A18019015DCA	LOVES TRAVEL STOP AND COUNTRY STORES, INC	MONITOR					7/24/2019			NO		
925218		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925226		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	12/11/2020	12/4/2020	40		NO		X
926105		A18019023DAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	107	97	4	5/5/2021	4/22/2021	29		NO		X
926109		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	88	88	2	5/14/2021	4/22/2021	21		NO		X
926110		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	47	2	5/15/2021	4/22/2021	20		NO		X
926115		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	54	54	6	5/16/2021	4/22/2021	22		NO		X
926398		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR	35	36	2	6/15/2021	6/9/2021	24		NO		X
085748		A18019022ACC	RANDALL,D S	EXEMPT	365	365	8	8/29/1980	9/24/1980	74	0	NO		
086111		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086144		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
086145		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14	1/1/1980	9/24/1997	25	0	NO	A	
086148		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
506364		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	N	X
519640		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
533813		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	280	279	5	12/16/1991	11/26/1991	80	0	NO	N	X
533817		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	141	140	5	2/15/1992	11/26/1991	30	0	NO	N	X
536058		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	30	0	0	7/22/1992	7/16/1992	30	0	NO	N	X
539101		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0	7/7/1993	5/12/1993	1	0	NO	C	X
539105		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539115		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539119		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539862		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/22/1993	7/12/1993	25	0	NO		X
539863		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	35	35	5	7/25/1993	7/12/1993	25	0	NO		X
547037		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
553271		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	20	4	12/18/1995	11/30/1995	29	0	NO	N	X
582888		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
593169		A18019034DBC	MILTON H DESPAIN	EXEMPT	115	50	6	9/7/2002	6/20/2002	43		NO		X
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	0	0	NO		
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0		6/10/1982	2	0	NO		
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO		
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978	6/10/1982	54	0	NO		
613173		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/22/1979	6/10/1982	19	0	NO		
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	18	0	NO		
613190		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979	6/10/1982	0	0	NO		
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979	6/10/1982	5	0	NO		
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	32	1	4/6/1979	6/10/1982	0	0	NO		
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979	6/10/1982	11	0	NO		
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/3/1979	6/10/1982	21	0	NO		
613400	345413110184401	A17019003ACB	AZTEC LAND CO LLC	NON-EXEMPT	550	260	24	7/17/1974	6/9/1982	105	638	YES	X	X
613404	345444110192501	A18019033DAD	AZTEC LAND CO LLC	NON-EXEMPT	410	269	24	10/26/1977	6/9/1982	26	600	YES		
638034		A18020031BDC	HUNT,D	EXEMPT	130	40	9	10/20/1980	6/14/1982	33	25	NO		
907990		A17019002ADD	ARIZONA PUBLIC SERVICE CO	OTHER	360		8	10/9/2007	10/17/2007			NO		X
913769		A18019025BAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011	11/3/2011	28		NO		X
917009		A18019023DCC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014			NO	A	X

918639		A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015	9/11/2015			NO		X
918641		A18020030CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/18/2015	9/11/2015			NO		X
921042		A18019022DDB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/5/2017	11/3/2017	60		NO	A	X
923205		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR					7/24/2019			NO		
925217		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925219		A18020030000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925729		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021			NO		X

Note: Wells registered as of August 16, 2021

ADWR Well Registry_08162021



August 16, 2021

Well Registry
Township
Section
County

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Earthstar Geographics

Arizona Department of Water Resources

Registry No. (55-)	GWSI Site ID	Cadastral	Owner Name	Well Type	Well Depth (ft)	Casing Depth (ft)	Case Dia (in)	Drill Date	Applicaiton Date	Water Level (ft)	Pump Capacity (GPM)	Pump Data Available	Completion Report	Log Received
233713		A18019016DCB	THRIFTWAY MARKETING CORPORATION	MONITOR	28	28	2	2/22/2021	1/27/2021			NO		X
506366		A18019024BBD	ARIZONA PUBLIC SERVICE	EXEMPT	118	65	5	10/21/1983	9/21/1983	26	0	NO	N	X
506369		A18019023AAC	AZ PUBLIC SERVICE,	EXEMPT	39	0	0	10/26/1983	9/21/1983	0	0	NO	N	X
529605		A18019016DCB	RADIAN CORP,	MONITOR	15	10	2	5/29/1991	5/20/1991	13	0	NO	N	X
529607		A18019016DCA	RADIAN CORP,	MONITOR	15	10	2	5/28/1991	5/20/1991	13	0	NO	N	X
539864		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/24/1993	7/12/1993	25	0	NO		X
540040		A18019016DCC	RADIAN CORP,	MONITOR	20	20	4	9/15/1993	8/17/1993	14	0	NO	N	X
540668		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	45	4	9/23/1993	9/15/1993	23	0	NO	N	X
540672		A18019022DBD	ARIZONA PUBLIC SERVICE	MONITOR	45	45	4	9/24/1993	9/15/1993	18	0	NO	A	X
579541		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	60	50	2	3/28/2000	2/8/2000	27		NO		X
906365		A18019036BBA	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	470	17	8/11/2007	2/1/2007	34		YES		X
909605		A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	30	2	5/29/2008	8/20/2008	20		NO		X
909987		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	290	280	5	11/18/2008	10/30/2008			NO		X
909988		A18020030BBA	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	385	380	5	11/15/2008	10/30/2008	140		NO		X
910007		A18019025CDC	ARIZONA PUBLIC SERVICE CO	MONITOR	60		10	11/21/2008	11/6/2008			NO		X
910008		A18019026DAB	ARIZONA PUBLIC SERVICE CO	MONITOR	90	65	5	11/22/2008	11/6/2008	30		NO		X
910249		A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	22				1/9/2009			NO		X
910324		A17020006BAD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	400	240	21	4/10/2009	1/19/2009	29		NO		X
910624		A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40		8	4/1/2009	4/8/2009	25		NO	A	X
917536		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	61		8	11/20/2014	11/13/2014	32		NO	A	X
918647		A18019013CBB	ARIZONA PUBLIC SERVICE	MONITOR	425	423	5	10/21/2015	9/11/2015	197		NO		X
918657		A18019024BBC	ARIZONA PUBLIC SERVICE	MONITOR	83	70	4	9/21/2015	9/14/2015			NO		X
919786		A18019023BAD	ARIZONA PUBLIC SERVICES (APS)	MONITOR	60	60	4	8/24/2016	8/11/2016	40		NO		X
919788		A18019023CCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/26/2016	8/11/2016	40		NO		X
925728		A18019015DCA	LOVES TRAVELS STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021			NO		X
925730		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	35	36	2		3/11/2021	6		NO		X
926108		A18019022DBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	67	48	4	4/29/2021	4/22/2021	37		NO		X
926120		A18020030CCB	ARIZONA PUBLIC SERVICE	MONITOR	27	19	4	5/3/2021	4/23/2021	4		NO		X
926812		A18019024BBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	31	30	6	9/28/2021	9/5/2021	12		NO		X
220453		A18019023C00	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/9/2011	3/22/2011	42		NO		X
221778		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
221780		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/7/2012	10/15/2012	42		NO		X
502294		A18019016DCD	GC RICE 3N, LLC	EXEMPT	270	229	6	4/1/1982	3/16/1982	20	0	NO	X	X
505119		A18019016DDC	RANDALL, A BLAINE,	NON-EXEMPT	450	280	12	8/15/1983	4/5/1983	40	800	NO	X	X
506368		A18019013CDD	AZ PUBLIC SERVICE,	EXEMPT	93	75	5	10/19/1983	9/21/1983	32	0	NO	N	X
529606		A18019016DCC	RADIAN CORP,	MONITOR	25	20	2	5/28/1991	5/20/1991	13	0	NO	N	X
539120		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539986		A18020031BBB	HUNT, BOYCE,B	EXEMPT	130	30	61	9/7/1993	7/16/1993	105	0	NO	C	X
546245		A18019023CDA	APS,	OTHER	187	187	6	12/9/1994	10/28/1994	0	0	NO	N	X
547033		A18019023CDD	APS,	OTHER	25	0	0	1/9/1995	12/30/1994	25	0	NO	N	X
569370		A17019003BBB	EL PASO NATURAL GAS CO. LLC., A KINDER MORGAN COMPANY	OTHER	500	130	8	9/27/1998	6/19/1998			NO	A	X
579545		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	104	90	2	3/20/2000	2/8/2000	90		NO		X
907565		A18019034DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/22/2007	8/7/2007			NO		X
907571		A17019002BBB	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	8/28/2007	8/7/2007			NO		X
910012		A18019035AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	46	40	8	11/24/2008	11/6/2008	34		NO		X
913771		A18019025DBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				11/11/2011	11/3/2011			NO		X
917515		A18019022D00	BNSF RAILWAYS	OTHER	100		8	11/4/2014	11/6/2014	24		NO	A	X
919787		A18019023BCC	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/25/2016	8/11/2016	40		NO		X
922299		A18019025DAB	ARIZONA PUBLIC SERVICE	MONITOR	25	19	4	11/14/2018	11/7/2018	14		NO		X

923618		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	53		3	11/19/2019	11/18/2019			NO		X
926099		A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	130	130	6	5/13/2021	4/22/2021	4		NO		X
926104		A18019023CAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	64	64	4	5/1/2021	4/22/2021	35		NO		X
926240		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	51	47	6	5/15/2021	5/14/2021	10		NO		X
215541		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	50	5	6/13/2007	4/26/2007	38		NO		X
220454		A18019022DD0	ARIZONA PUBLIC SERVICE COMPANY	OTHER	0	0	0	11/10/2011	3/21/2011	40		NO		X
506370		A18019023ADA	AZ PUBLIC SERVICE,	EXEMPT	159	58	5	10/26/1983	9/21/1983	29	0	NO	N	X
506371		A18019023DAB	AZ PUBLIC SERVICE,	EXEMPT	54	47	5	11/1/1983	9/21/1983	37	0	NO	N	X
533814		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	62	62	5	1/27/1992	11/26/1991	4	0	NO	N	X
536056		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	21	0	0	7/20/1992	7/16/1992	20	0	NO	N	X
536059		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	0	0	7/28/1992	7/16/1992	33	0	NO	N	X
539103		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/1/1993	5/12/1993	1	0	NO	A	X
540041		A18019016DCC	RADIAN CORP,	MONITOR	20	20	4	9/16/1993	8/17/1993	15	0	NO	N	X
540042		A18019016DCA	RADIAN CORP,	MONITOR	20	20	4	9/16/1993	8/17/1993	13	0	NO	N	X
547036		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/11/1995	12/30/1994	25	0	NO	A	X
547254		A18019025000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	50	0	0	6/14/1995	6/2/1995	0	0	NO	N	X
552869		A17020005CBB	LOPEZ, ODELL,	EXEMPT	100	41	6	12/30/1995	10/16/1995	34	20	NO	X	X
580185		A17020006BAA	BOYD L WESTOVER	EXEMPT	173	38	6	8/15/2000	3/16/2000	26		NO		X
909085		A18019022CBC	AZTEC LAND & CATTLE CO LTD.	OTHER	90		7	5/28/2008	5/23/2008			NO	A	X
910250		A18019015CDA	LOVE'S COUNTY STORES	MONITOR	20				1/9/2009			NO		X
910623		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	41	41	2	4/1/2009	4/8/2009	25		NO	A	X
913770		A18019023CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	122	59		11/10/2011	11/3/2011	39		NO		X
913772		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	183			11/12/2011	11/3/2011			NO	A	X
918658		A18019023CBD	ARIZONA PUBLIC SERVICE	MONITOR	97	84	5	11/17/2015	9/14/2015	42		NO		X
921016		A18019022DDB	ARIZONA PUBLIC SERVICE - APS	MONITOR	126	119	4	11/4/2017	10/25/2017	50		NO		X
921058		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/15/2017	11/8/2017	37		NO		X
922301		A18019025DDB	ARIZONA PUBLIC SERVICE	MONITOR	50	45		11/15/2018	11/7/2018	34		NO		X
926111		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	50	2	5/15/2021	4/22/2021	19		NO		X
926116		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	19	18	4	5/13/2021	4/22/2021	1		NO		X
926813		A18019024BBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	26	26	6	9/29/2021	9/5/2021	18		NO		X
926815		A18019024BBA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	66	3	9/29/2021	9/5/2021	19		NO		X
205720		A18019023CCA	ARIZONA PUBLIC SERVICE CO	MONITOR	47	45	2	3/9/2005	10/29/2004	35		NO	A	X
506365		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	54	54	5	10/11/1983	9/21/1983	20	0	NO	N	X
533812		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	293	292	5	1/12/1992	11/26/1991	83	0	NO	N	X
536055		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	40	18	4	7/23/1992	7/16/1992	33	0	NO	N	X
537495		A18020031CDC	WESTOVER, BOYD,L	EXEMPT	125	125	0	2/2/1993	12/1/1992	6	0	NO	C	X
539097		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539104		A18020030CBD	ARIZONA PUBLIC SERVICE	EXEMPT	40	20	5	6/2/1993	5/12/1993	1	0	NO	A	X
539121		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
541684		A18019015BCC	EL PASO NATURAL GAS,	OTHER	500	180	8	12/17/1993	12/3/1993	0	0	NO	N	X
566113		A17020005CBA	MARCELINO & ROSA PONCE	EXEMPT	125	52	8	7/24/1998	12/2/1997	41		NO		X
579543		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/27/2000	2/8/2000	25		NO		X
579546		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	83	73	2	3/21/2000	2/8/2000	46		NO		X
620722	345414110153601	A17020006ACB	JOSEPH CITY IRRIGATION COMPANY	NON-EXEMPT	403	8	14	2/1/1948	6/14/1982	32	1009	YES	X	X
907567		A18019036BCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	5	9/19/2007	8/7/2007	38		NO		X
907572		A17019004ADC	ARIZONA PUBLIC SERVICE CO	NON-EXEMPT	530	520	21	10/15/2007	8/7/2007	89		NO		X
909094		A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/30/2008	5/23/2008	20		NO		X
918638		A18019025CDC	ARIZONA PUBLIC SERVICE	MONITOR	57	55	5	11/18/2015	9/11/2015	38		NO		X
918659		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/13/2015	9/14/2015	42		NO		X
918661		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/7/2015	9/14/2015	41		NO		X
919790		A18019024CDD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/23/2016	8/11/2016	42		NO		X
922300		A18020030CBC	ARIZONA PUBLIC SERVICE	MONITOR	60	49	4	11/26/2018	11/7/2018	29		NO		X
925727		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC.	MONITOR	36	36	2	3/15/2021	3/11/2021	11		NO		X
205719		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	47	45	4	3/9/2005	10/29/2004	34		NO		X

215540		A18019023CCA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR				6/12/2009	4/26/2007			NO		X
232663		A17019003BBB	EL PASO NATURAL GAS COMPANY, LLC., A KINDER MORGAN COMPANY	OTHER	20	490	12	9/2/2020	7/25/2020			NO	A	X
524566		A18019023000	AZ PUBLIC SERVICE,	OTHER	185	40	6	6/8/1989	5/17/1989	0	0	NO	N	X
533811		A18019013CCA	AZ PUBLIC SERVICE,	MONITOR	259	258	5	1/22/1992	11/26/1991	114	0	NO	N	X
533816		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	240	238	5	12/19/1991	11/26/1991	80	0	NO	N	X
539095		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/27/1993	5/12/1993	5	0	NO	C	X
539099		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/9/1993	5/12/1993	5	0	NO	C	X
539860		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/21/1993	7/12/1993	25	0	NO		X
553267		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	49	49	5	12/21/1995	11/30/1995	2	25	NO	X	X
620723	345410110153201	A17020006DBA	JOSEPH CITY IRRIGATION COMPANY	NON-EXEMPT	300	240	14	4/17/2009	6/14/1982	19	744	YES	X	X
907561		A18019026CCC	ARIZONA PUBLIC SERVICE CO	MONITOR	500	500	8	9/7/2007	8/7/2007	35		NO		X
907562		A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	251	250	5	8/23/2007	8/7/2007			NO		X
907563		A17019002AAA	ARIZONA PUBLIC SERVICE CO	MONITOR	502	500	9	8/23/2007	8/7/2007	66		NO		X
907660		A17019002BBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	500	490	21	2/7/2008	8/23/2007	67		NO		X
909801		A18019022CCC	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	535	530	5	10/30/2008	9/25/2008	30		NO		X
910248		A18019015CDA	LOVE'S COUNTRY STORES	MONITOR	20	20		1/14/2009	1/9/2009			NO		X
917710		A18019023000	ARIZONA DEPARTMENT OF TRANSPORTATION	OTHER	40			12/11/2014	1/14/2015	30		NO	A	X
918660		A18019023CBC	ARIZONA PUBLIC SERVICE	MONITOR	100	85	5	10/8/2015	9/14/2015	41		NO		X
921059		A18019026BBA	ARIZONA PUBLIC SERVICE	MONITOR	62	60	2	11/16/2017	11/8/2017	36		NO		X
923346		A18019025BAD	ARIZONA PUBLIC SERVICE	MONITOR	50			9/18/2019	9/9/2019			NO		X
925227		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	12/9/2020	12/4/2020	40		NO		X
926097		A18019023AAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	55	55	6	5/5/2021	4/22/2021	2		NO		X
926103		A18019023ADC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	52	26	4	5/1/2021	4/22/2021			NO		X
926106		A18019023DAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	177	165	4	5/18/2021	4/22/2021	27		NO		X
926399		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC	MONITOR	35	36	2	6/15/2021	6/9/2021	24		NO		X
221779		A18019023CDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	62	60	4	11/6/2012	10/12/2012	42		NO		X
506372		A18019023ACA	AZ PUBLIC SERVICE,	EXEMPT	94	65	5	10/4/1983	9/21/1983	32	0	NO	N	X
506586		A18019023ABB	ARIZONA PUBLIC SERVICE COMPANY	OTHER	58	58	5	11/2/1983	11/1/1983	36	0	NO	N	X
506587		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER	40	35	5	11/4/1983	11/1/1983	3	0	NO	A	X
519638		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	0	0	NO	N	X
519639		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
536057		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	51	0	0	7/21/1992	7/16/1992	50	0	NO	N	X
539096		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	5/28/1993	5/12/1993	5	0	NO	C	X
539102		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	21	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
539861		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/23/1993	7/12/1993	25	0	NO		X
547253		A18020030000	ARIZONA PUBLIC SERVICE COMPANY	OTHER	37	0	0	6/7/1995	6/2/1995	0	0	NO	N	X
560489		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	30	0	4	2/11/1997	11/26/1996	29	0	NO	N	X
579540		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	40	30	2	3/23/2000	2/8/2000	42		NO		X
579542		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	62	52	2	3/22/2000	2/8/2000			NO		X
906364		A18019035AAB	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT	481	470	20	7/15/2007	2/1/2007	30		YES		X
909096		A18019016DAC	THRIFTWAY MARKETING	MONITOR	35	35	2	5/31/2008	5/23/2008	20		NO		X
909802		A17020006CBB	ARIZONA PUBLIC SERVICE COMPANY CHOLLA POWE	MONITOR	410	400	5	10/7/2008	9/25/2008	64		NO		X
910009		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	75	70	5	11/20/2008	11/6/2008	45		NO		X
918645		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR	13			9/19/2015	9/11/2015			NO		X
918646		A18019013CAB	ARIZONA PUBLIC SERVICE	MONITOR	370	365	5	10/12/2015	9/11/2015			NO		X
919789		A18019026AAD	ARIZONA PUBLIC SERVICE (APS)	MONITOR	60	60	4	8/29/2016	8/11/2016	42		NO		X
919791		A18019023DAB	ARIZONA PUBLIC SERVICE (APS)	MONITOR	120	118	4	8/19/2016	8/11/2016	42		NO		X
922955		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR	96	82	4	5/17/2019	5/10/2019	46		NO		X
923582		A18019024BBB	ARIZONA PUBLIC SERVICE	MONITOR	77	75	3	11/22/2019	11/6/2019			NO		X
923598		A18019014DDA	ARIZONA PUBLIC SERVICE	OTHER	62			11/19/2019	11/12/2019	9		NO	A	X
926100		A18019023AAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	84	81	6	5/3/2021	4/22/2021	19		NO		X
926102		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	29	25	6	5/16/2021	4/22/2021	10		NO		X
502100		A18019016DDC	BARRETT,W W	EXEMPT	280	245	5	9/22/1982	2/23/1982	35	35	NO	X	X

506367		A18019013DBD	AZ PUBLIC SERVICE,	EXEMPT	93	84	5	10/14/1983	9/21/1983	45	0	NO	N	X
511169		A18019023B00	HARCO CORP,	OTHER	205	205	10	5/23/1985	5/17/1985	0	0	NO	N	X
533820		A18020030CAA	AZ PUBLIC SERVICE,	MONITOR	96	20	5	2/15/1992	11/26/1991	30	0	NO	N	X
539098		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	20	5	7/8/1993	5/12/1993	5	0	NO	C	X
539100		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	20	0	0	7/7/1993	5/12/1993	5	0	NO	C	X
541134	345512110151701	A18020031ACC	KEMPTON, CARL,	EXEMPT	160	100	6	11/8/1993	10/20/1993	115	0	NO	C	X
547034		A18019023CDD	APS,	MONITOR	46	45	4	1/9/1995	12/30/1994	25	0	NO	N	X
547035		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	46	45	4	1/10/1995	12/30/1994	25	0	NO	A	X
553269		A18020030CCC	AZ PUBLIC SERVICE,	MONITOR	45	45	4	12/19/1995	11/30/1995	9	0	NO	N	X
579544		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR	85	75	2	3/23/2000	2/8/2000	37		NO		X
613418		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	560	120	11	12/31/1977	6/9/1982	65	0	NO	X	X
907883		A17019002ADD	ARIZONA PUBLIC SERVICE CO	MONITOR	360		8	10/8/2007	9/28/2007			NO		X
908486		A18019016DBC	SPARTA INVESTMENTS	MONITOR	30	30	8	3/3/2008	2/8/2008	25		NO		X
909098		A18019016DAC	THRIFTWAY MARKETING	MONITOR	32	32		5/29/2008	5/23/2008	20		NO		X
910010		A18019023DDD	ARIZONA PUBLIC SERVICE CO	MONITOR	180	170	5	12/4/2008	11/6/2008	45		NO		X
910011		A18019026DBA	ARIZONA PUBLIC SERVICE CO	MONITOR	70	60	8	11/23/2008	11/6/2008	38		NO		X
910013		A18019025BDA	ARIZONA PUBLIC SERVICE CO	MONITOR	80	70	5	11/21/2008	11/6/2008	34		NO		X
917606		A18019023ACC	ARIZONA DEPARTMENT OF TRANSPORTATION	MONITOR	60	60	2	12/10/2014	12/8/2014	30		NO	A	X
918640		A18019025ADD	ARIZONA PUBLIC SERVICE	MONITOR	14	12	4	9/18/2015	9/11/2015			NO		X
918701		A18019013DDB	ARIZONA PUBLIC SERVICES	MONITOR	60	55	5	10/3/2015	9/30/2015			NO		X
921392		A18019026BB0	ARIZONA PUBLIC SERVICE	OTHER	51		6	2/27/2018	2/28/2018			NO		X
922954		A18019023CCD	ARIZONA PUBLIC SERVICE	MONITOR	86	70	4	5/22/2019	5/10/2019	46		NO		X
925226		A18019023CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	71	70	4	12/11/2020	12/4/2020	40		NO		X
926105		A18019023DAC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	107	97	4	5/5/2021	4/22/2021	29		NO		X
926109		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	88	88	2	5/14/2021	4/22/2021	21		NO		X
926110		A18020030BDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	50	47	2	5/15/2021	4/22/2021	20		NO		X
926115		A18020030CBD	ARIZONA PUBLIC SERVICE COMPANY	OTHER	54	54	6	5/16/2021	4/22/2021	22		NO		X
926398		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORE, INC.	MONITOR	35	36	2	6/15/2021	6/9/2021	24		NO		X
926816		A18019024BDC	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	65	65	4	10/5/2021	9/5/2021	23		NO		X
506364		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	108	104	5	10/7/1983	9/21/1983	22	0	NO	N	X
518943		A18019015BC0	EL PASO NATURAL GAS,	OTHER	500	190	8	10/15/1987	9/2/1987	0	0	NO	N	X
519640		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	12	10	1	12/2/1987	11/13/1987	4	0	NO	N	X
529604		A18019016DCB	RADIAN CORP,	MONITOR	18	10	2	5/28/1991	5/20/1991	13	0	NO	N	X
533813		A18019023AAA	AZ PUBLIC SERVICE,	MONITOR	280	279	5	12/16/1991	11/26/1991	80	0	NO	N	X
533817		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	141	140	5	2/15/1992	11/26/1991	30	0	NO	N	X
536058		A18020030CBA	AZ PUBLIC SERVICE,	MONITOR	30	0	0	7/22/1992	7/16/1992	30	0	NO	N	X
539101		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0	7/7/1993	5/12/1993	1	0	NO	C	X
539119		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	20	10	2	5/19/1993	5/12/1993	1	0	NO	N	X
539862		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	40	40	5	7/22/1993	7/12/1993	25	0	NO		X
539863		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	35	35	5	7/25/1993	7/12/1993	25	0	NO		X
553271		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	45	20	4	12/18/1995	11/30/1995	29	0	NO	N	X
593169		A18019034DBC	MILTON H DESPAIN	EXEMPT	115	50	6	9/7/2002	6/20/2002	43		NO		X
613400	345413110184401	A17019003ACB	AZTEC LAND CO LLC	NON-EXEMPT	550	260	24	7/17/1974	6/9/1982	105	638	YES	X	X
907990		A17019002ADD	ARIZONA PUBLIC SERVICE CO	OTHER	360		8	10/9/2007	10/17/2007			NO		X
913769		A18019025BAA	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	68	30		11/12/2011	11/3/2011	28		NO		X
917009		A18019023DCC	APS - CHOLLA POWER PLANT	OTHER					6/4/2014			NO	A	X
918639		A18019036ADB	ARIZONA PUBLIC SERVICE	MONITOR	35	20	4	9/16/2015	9/11/2015			NO		X
918641		A18020030CBB	ARIZONA PUBLIC SERVICE	MONITOR	32	29	4	9/18/2015	9/11/2015			NO		X
921042		A18019022DDB	ARIZONA PUBLIC SERVICE (APS)	OTHER	66			11/5/2017	11/3/2017	60		NO	A	X
925729		A18019015DCA	LOVES TRAVEL STOPS & COUNTRY STORES, INC	MONITOR	36	36	2	3/16/2021	3/11/2021			NO		X
926814		A18019024BBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR	125	69	3	9/30/2021	9/5/2021	62		NO		X
600375	345445110192501	A18019033DAA	AZTEC LAND CO. LLC.	EXEMPT	100	40	6	6/10/1946	9/28/1981	20	12	NO	N	N
912800		A18019013CAB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					12/27/2010			NO		I
086109		A18019023000	ARIZONA PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		

086142		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086146		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	86	86	14	1/1/1980	9/24/1997	25	0	NO	A	
086152		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	42	42	14	1/1/1980	9/24/1997	0	0	NO	A	
533819		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
539111		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539112		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539117		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
573582		A17020006BAA	BOYD L WESTOVER	EXEMPT					3/4/1999			NO		
613089	345434110171201	A18019036CCC	AZ PUBLIC SERVICE,	NON-EXEMPT	350	55	10	12/1/1961	6/10/1982	27	950	YES	X	
613128		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	1	0	NO		
613153		A18019026DAB	AZ PUBLIC SERVICE,	EXEMPT	92	80	6	9/4/1973	6/10/1982	40	0	NO		
613176		A18019014DAC	AZ PUBLIC SERVICE,	EXEMPT	80	53	1	8/21/1979	6/10/1982	77	0	NO		
613181		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	57	25	1	3/8/1979	6/10/1982	30	0	NO		
613182		A18019013CAD	AZ PUBLIC SERVICE,	EXEMPT	53	28	1	2/26/1979	6/10/1982	33	0	NO		
613192		A18019023ABA	AZ PUBLIC SERVICE,	EXEMPT	50	27	1	2/27/1979	6/10/1982	12	0	NO		
613199		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	112	32	1		6/10/1982	97	0	NO		
613206		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613208		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/27/1979	6/10/1982	0	0	NO		
613212		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	18	0	NO		
613218		A18020030BCC	AZ PUBLIC SERVICE,	EXEMPT	100	79	1	5/1/1979	6/10/1982	59	0	NO		
613221		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/4/1979	6/10/1982	21	0	NO		
905036		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
906363		A18019036DDC	ARIZONA PUBLIC SERVICE CORPORATION	NON-EXEMPT					2/1/2007			YES		
918651		A18019023AAB	ARIZONA PUBLIC SERVICE	MONITOR					9/11/2015			NO		
921060		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
086153		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	45	45	14	1/1/1980	9/24/1997	45	0	NO	A	
205717		A18019022DDB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
539109		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539859		A18019013CCD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		7/12/1993	0	0	NO		
540669		A18019023CDD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
540670		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
547038		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
582885		A18020030CAC	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
605778		A17020005000	DEWITT,M	NON-EXEMPT	240	18	12	5/20/1974	3/31/1982	46	500	YES		
613130		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	15	0	0		6/10/1982	15	0	NO		
613132		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	2	0	NO		
613136		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	6	0	0		6/10/1982	1	0	NO		
613139		A18019026ACC	AZ PUBLIC SERVICE,	EXEMPT	14	0	0		6/10/1982	12	0	NO		
613147		A18019028DDD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		6/10/1982	0	0	NO		
613148		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	595	595	0	1/1/1961	6/10/1982	0	0	NO		
613149	345613110180601	A18019026BBA	AZ PUBLIC SERVICE,	EXEMPT	570	185	12	1/1/1959	6/10/1982	0	0	NO		
613163		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	77	50	1	10/31/1978	6/10/1982	77	0	NO		
613177		A18019013CAA	AZ PUBLIC SERVICE,	EXEMPT	62	40	1	3/9/1979	6/10/1982	32	0	NO		
613179		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	41	0	NO		
613186		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	3	0	NO		
613194		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	56	41	1		6/10/1982	17	0	NO		
613200		A18019025AAD	AZ PUBLIC SERVICE,	EXEMPT	132	32	1		6/10/1982	117	0	NO		
613211		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	4/6/1979	6/10/1982	58	0	NO		
613222		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/3/1979	6/10/1982	13	0	NO		
613403	345411110161601	A17019001ADA	AZTEC LAND CO LLC	NON-EXEMPT	390	278	24	11/1/1976	6/9/1982	39	700	YES	X	
613415		A17019001ADD	AZTEC LAND CO LLC	EXEMPT	755	50	10	1/1/1977	6/9/1982	45	0	NO		
905035		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
906812	345433110162101	A18019036DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					4/12/2007			YES		
913984		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		

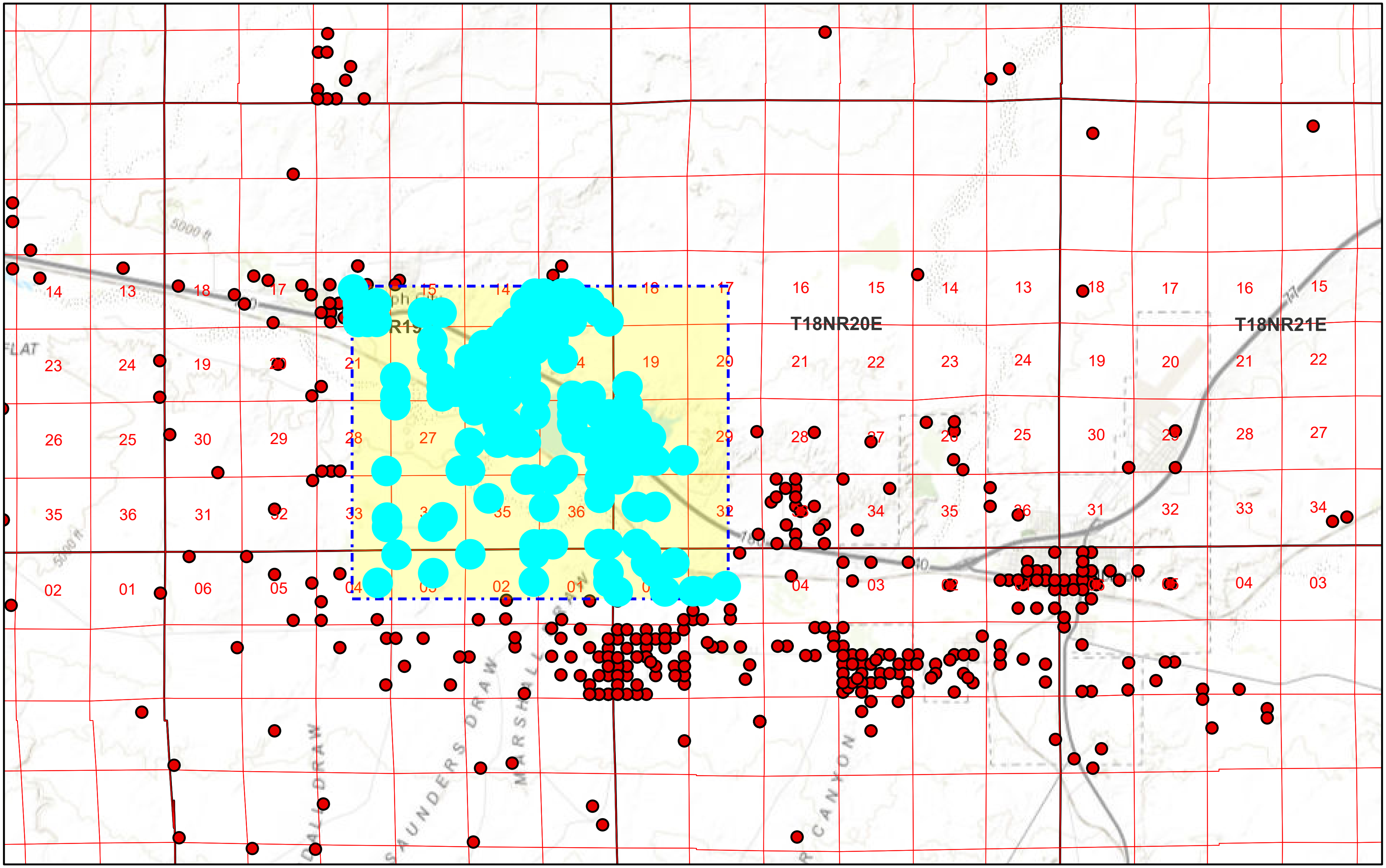
913993		A18019013DDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/18/2012			NO		
923206		A18019015DCA	LOVES TRAVEL STOP & COUNRY STORE, INC.	MONITOR					7/24/2019			NO		
086112		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
220206		A18019023CDB	ARIZONA PUBLIC SERVICE	OTHER					10/15/2010			NO		
533815		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
539106		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
582886		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
594797		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	OTHER					9/27/2002			NO		
613126		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	6	0	2		6/10/1982	2	0	NO		
613138		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	0	0	NO		
613166		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	164	88	1	11/1/1978	6/10/1982	20	0	NO		
613169		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	154	114	1		6/10/1982	29	0	NO		
613170		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	102	87	1		6/10/1982	27	0	NO		
613198		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	191	175	2		6/13/1982	69	0	NO		
613207		A18020030DCB	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	3/26/1979	6/10/1982	53	0	NO		
613220		A18019025ADD	AZ PUBLIC SERVICE,	EXEMPT	60	38	1	4/4/1979	6/10/1982	51	0	NO		
613413		A18019027BBB	AZTEC LAND CO LLC	EXEMPT	840	285	10	1/1/1977	6/9/1982	14	0	NO		
913985		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
921061		A18019023CCC	ARIZONA PUBLIC SERVICE	MONITOR					11/8/2017			NO		
923207		A18019015DCA	LOVES TRAVEL SHOP & COUNTRY STORE, INC.	MONITOR					7/24/2019			NO		
086110		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086149		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086150		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	87	87	14	1/1/1980	9/24/1997	25	0	NO	A	
086151		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	63	63	14	1/1/1980	9/24/1997	25	0	NO	A	
233176		A18019016DCB	THRIFTWAY MARKETING CORPORATION	MONITOR								NO		
533818		A18019013CCD	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/26/1991	0	0	NO	N	
539110		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
594796		A18019023CDD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					9/27/2002			NO		
608472	345637110191901	A18019022CBC	LARRY E. & AVA RACHELE BALDWIN	NON-EXEMPT	440	343	10	3/17/1967	5/10/1982	10	1000	NO		
613090	345434110170501	A18019036CCD	AZ PUBLIC SERVICE,	NON-EXEMPT	350	60	24	3/8/1962	6/10/1982	37	2000	YES		
613135		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	10	0	0		6/10/1982	8	0	NO		
613142		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	35	0	0		6/10/1982	13	0	NO		
613151		A18019026CAA	AZ PUBLIC SERVICE,	EXEMPT	57	53	6	8/28/1973	6/10/1982	40	0	NO		
613152		A18019025CDC	ARIZONA PUBLIC SERVICE CHOLLA POWER PLANT	EXEMPT	56	49	6	8/30/1973	6/10/1982	32	0	NO	A	
613164		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	44	28	1	10/31/1978	6/10/1982	28	0	NO		
613174		A18019014DAA	AZ PUBLIC SERVICE,	EXEMPT	80	48	1	3/20/1979	6/10/1982	52	0	NO		
613175		A18019014DDB	AZ PUBLIC SERVICE,	EXEMPT	81	41	1	3/12/1979	6/10/1982	30	0	NO		
613193		A18019025DAA	AZ PUBLIC SERVICE,	EXEMPT	26	16	1		6/10/1982	16	0	NO		
613196		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	146	133	2		6/10/1982	27	0	NO		
613210		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/6/1979	6/10/1982	0	0	NO		
613417		A18019027DDD	AZTEC LAND CO LLC	EXEMPT	900	163	10	1/1/1977	6/9/1982	14	0	NO		
906917		A18019023CCD	ARIZONA PUBLIC SERVICE CO	OTHER					5/4/2007			NO		
926101		A18019013CCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					4/22/2021			NO		
205718		A18019022DCD	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					10/29/2004			NO		
482995		A18020030BDB	ARIZONA PUBLIC SERVICE	MONITOR	56	55	1		4/29/2021			NO	A	
502455		A18019016DDC	RANDALL,D	NON-EXEMPT	0	0	0		3/25/1982	0	0	NO		
539114		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539116		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
547039		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
553268		A18020030CCB	ARIZONA PUBLIC SERVICE	MONITOR	50	50	4		11/30/1995	0	0	NO	A	
553270		A18019036AAB	AZ PUBLIC SERVICE,	MONITOR	0	0	0		11/30/1995	0	0	NO	N	
613133		A18019026BDA	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	17	0	NO		
613134		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	17	0	NO		
613140		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	18	0	NO		

613144		A18019028DDD	AZ PUBLIC SERVICE,	EXEMPT	374	0	12		6/10/1982	13	0	NO		
613154		A18019022DCA	AZ PUBLIC SERVICE,	EXEMPT	100	100	6	9/7/1973	6/10/1982	5	0	NO		
613168		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	50	33	2	10/31/1978	6/10/1982	1	0	NO		
613178		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	67	38	1	3/11/1979	6/10/1982	39	0	NO		
613187		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	50	25	1	2/24/1979	6/10/1982	0	0	NO		
613189		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	31	1	2/22/1979	6/10/1982	7	0	NO		
613203		A18019025AAC	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	39	0	NO		
613209		A18020030CDB	AZ PUBLIC SERVICE,	EXEMPT	51	29	1	4/5/1979	6/10/1982	0	0	NO		
613223		A18019025ADA	AZ PUBLIC SERVICE,	EXEMPT	80	58	1	5/8/1979	6/10/1982	57	0	NO		
627252		A17020006AAC	ATCHISON-TOPEKA,	NON-EXEMPT	80	80	6	2/27/1940	6/10/1982	0	0	NO		
650086		A18019022ABC	LANE,J E	NON-EXEMPT	750	750	10		7/14/1982	50	200	YES		
905034		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
905038		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
909097		A18019016DAC	THRIFTWAY MARKETING	MONITOR					5/23/2008			NO		
913983		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	MONITOR					1/16/2012			NO		
086141		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	88	88	14	1/1/1980	9/24/1997	25	0	NO	A	
086143		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	90	90	14	1/1/1980	9/24/1997	25	0	NO	A	
086147		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	85	85	14	1/1/1980	9/24/1997	25	0	NO	A	
482992		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER	51	46	1		4/29/2021			NO	A	
539107		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539108		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539118		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
613088		A18019026ACB	AZ PUBLIC SERVICE,	NON-EXEMPT	595	695	30	1/1/1961	6/10/1982	0	1200	YES		
613131		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	45	0	0		6/10/1982	20	0	NO		
613137		A18019026ACB	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	1	0	NO		
613165		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	177	88	1	11/1/1978	6/10/1982	62	0	NO		
613172		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	18	1	3/21/1979	6/10/1982	9	0	NO		
613180		A18019014DCD	AZ PUBLIC SERVICE,	EXEMPT	54	31	1	3/23/1979	6/10/1982	33	0	NO		
613204		A18019025ABA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/8/1979	6/10/1982	0	0	NO		
613205		A18019024DCD	AZ PUBLIC SERVICE,	EXEMPT	57	35	1	4/8/1979	6/10/1982	0	0	NO		
613215		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	116	88	1	5/7/1979	6/10/1982	77	0	NO		
613421		A18019035DDD	AZTEC LAND CO LLC	EXEMPT	520	57	10	1/1/1977	6/9/1982	33	0	NO		
809098		A17020005000	JOHN & CAROLYN NATCHER	EXEMPT								NO		
905032		A18019016ACD	SPARTA INVESTMENTS INC.	MONITOR					6/16/2006			NO		
906362	345435110171001	A18019036CCC	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					2/1/2007			YES		
925215		A18020030CBD	ARIZONA PUBLIC SERVICES	OTHER					12/2/2020			NO		
925216		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925220		A18019025000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
214839		A18019023CBD	KLEINFELDER, INC	OTHER								NO		
482994		A18020030BDB	ARIZONA PUBLIC SERVICE	MONITOR	76	76	1		4/29/2021			NO	A	
539113		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
540671		A18019023CDD	ARIZONA PUBLIC SERVICE CO	MONITOR	0	0	0		9/15/1993	0	0	NO	N	
582887		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
613125		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	45	0	2		6/10/1982	24	0	NO		
613145		A18019026CBB	AZ PUBLIC SERVICE,	EXEMPT	570	0	0	1/1/1959	6/10/1982	30	0	NO		
613150		A18019035BDB	AZ PUBLIC SERVICE,	EXEMPT	57	50	6	8/23/1973	6/10/1982	45	0	NO		
613171		A18019023AAA	AZ PUBLIC SERVICE,	EXEMPT	292	277	2		6/10/1982	74	0	NO		
613183		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/8/1979	6/10/1982	40	0	NO		
613184		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/7/1979	6/10/1982	32	0	NO		
613188		A18019013CCC	AZ PUBLIC SERVICE,	EXEMPT	55	21	1	2/23/1979	6/10/1982	21	0	NO		
613195		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	77	57	1		6/10/1982	18	0	NO		
613197		A18020030CDA	AZ PUBLIC SERVICE,	EXEMPT	92	52	1		6/10/1982	70	0	NO		
613202		A18020030DDA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	4/7/1979	6/10/1982	0	31	NO		
613213		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	1	5/19/1979	6/10/1982	55	0	NO		

613214		A18020030CBA	AZ PUBLIC SERVICE,	EXEMPT	120	88	2	5/16/1979	6/10/1982	96	0	NO		
905037		A18019016DCA	SPARTA INVESTMENTS, INC.	MONITOR					6/16/2006			NO		
907167		A18019023DDD	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT					6/11/2007			YES		
923204		A18019015DCA	LOVES TRAVEL STOP AND COUNTRY STORES, INC	MONITOR					7/24/2019			NO		
925218		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
085748		A18019022ACC	RANDALL,D S	EXEMPT	365	365	8	8/29/1980	9/24/1980	74	0	NO		
086111		A18019023000	AZ PUBLIC SERVICE	NON-EXEMPT	0	0	0		10/29/1980	0	0	NO		
086144		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
086145		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	80	80	14	1/1/1980	9/24/1997	25	0	NO	A	
086148		A18019023CBB	ARIZONA PUBLIC SERVICE COMPANY	NON-EXEMPT	83	83	14	1/1/1980	9/24/1997	25	0	NO	A	
539105		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
539115		A18020030CBD	AZ PUBLIC SERVICE,	EXEMPT	0	0	0		5/12/1993	0	0	NO		
547037		A18019023CDD	APS,	MONITOR	0	0	0		12/30/1994	0	0	NO	N	
582888		A18020030CBD	ARIZONA PUBLIC SERVICE	MONITOR					8/15/2000			NO		
613127		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	8	0	0		6/10/1982	0	0	NO		
613129		A18019026BAD	AZ PUBLIC SERVICE,	EXEMPT	12	0	0		6/10/1982	2	0	NO		
613141		A18019026ACD	AZ PUBLIC SERVICE,	EXEMPT	18	0	0		6/10/1982	16	0	NO		
613167		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	137	88	1	11/1/1978	6/10/1982	54	0	NO		
613173		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	3/22/1979	6/10/1982	19	0	NO		
613185		A18019013CCA	AZ PUBLIC SERVICE,	EXEMPT	50	28	1	2/25/1979	6/10/1982	18	0	NO		
613190		A18019024BBB	AZ PUBLIC SERVICE,	EXEMPT	60	33	1	2/21/1979	6/10/1982	0	0	NO		
613191		A18019023AAB	AZ PUBLIC SERVICE,	EXEMPT	58	37	0	3/6/1979	6/10/1982	5	0	NO		
613201		A18020019CCA	AZ PUBLIC SERVICE,	EXEMPT	54	32	1	4/6/1979	6/10/1982	0	0	NO		
613216		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	70	43	1	3/26/1979	6/10/1982	11	0	NO		
613217		A18020030CBB	AZ PUBLIC SERVICE,	EXEMPT	37	19	1	4/3/1979	6/10/1982	21	0	NO		
613404	345444110192501	A18019033DAD	AZTEC LAND CO LLC	NON-EXEMPT	410	269	24	10/26/1977	6/9/1982	26	600	YES		
638034		A18020031BDC	HUNT,D	EXEMPT	130	40	9	10/20/1980	6/14/1982	33	25	NO		
923205		A18019015DCA	LOVES TRAVEL STOP & COUNTRY STORE, INC.	MONITOR					7/24/2019			NO		
925217		A18020030CBD	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		
925219		A18020030000	ARIZONA PUBLIC SERVICE	OTHER					12/2/2020			NO		

Note: Wells registered as of November 30, 2021

ADWR Well Registry_11302021



November 30, 2021

Well_Registry
Township
Section
County

1:144,448

0 1 2 4 mi

0 1.5 3 6 km

Bureau of Land Management, Esri, HERE, Garmin, USGS, NGA, EPA,

Arizona Department of Water Resources

Appendix P

Semiannual Report Documenting Progress in Remedy Selection for the Fly Ash Pond and Bottom Ash Pond

Wood Environment & Infrastructure Solutions, Inc.
4600 E. Washington St, Suite 600
Phoenix, Arizona 85034
USA

T: 602-733-6000

www.woodplc.com

July 15, 2021
Wood Reference No: 1420182040

Arizona Public Service Company
400 N. 5th Street
Phoenix, Arizona 85004

Re: SEMIANNUAL REPORT DOCUMENTING PROGRESS IN REMEDY SELECTION
FLY ASH POND AND BOTTOM ASH POND
Cholla Power Plant – Navajo County, Arizona

In accordance with 40 Code of Federal Regulations (CFR) Section (§) 257.97(a) of the Coal Combustion Residuals (CCR) Rule, this Semiannual Remedy Selection Progress Report (Semiannual Report) has been prepared on behalf of Arizona Public Service Company (APS) to document progress in selection of remedies for CCR units which have been identified as potentially impacting groundwater at the APS Cholla Power Plant, located in Navajo County, Arizona (the Site). Applicable site CCR units include the Fly Ash Pond (FAP) and the Bottom Ash Pond (BAP). Semiannual progress reporting supporting remedy selection began on July 15, 2019. The most recent update was provided in the *Annual Groundwater Monitoring and Corrective Action Report for 2020*, dated January 31, 2021. This Semiannual Report serves as the fifth update on remedy selection progress at the site and documents activities completed to date in 2021.

1. Summary of Activities Completed in 2021

Activities completed by APS in the first half of 2021 in support of remedy selection for the FAP and the BAP include the following:

- *Aquifer Testing at the FAP*. In January 2021, Wood Environment and Infrastructure Inc. (Wood) performed several aquifer tests at four extraction wells downgradient of the FAP installed in December 2020. The aquifer tests were performed to evaluate the effectiveness of an extraction well network as a potential corrective measure. Results of the aquifer tests indicate hydraulic connectivity between three of the four extraction wells and other nearby alluvial monitoring wells. Further details of the aquifer test results and recommendations for incorporation into existing FAP seepage systems are to be outlined in a Well Completion Report. This report will be included as an appendix to the Annual Groundwater Monitoring and Corrective Action Report for 2021 (2021 GMCAR).

- *Groundwater Redox Sampling at the FAP and BAP*. Site investigations conducted to date suggest elevated concentrations of cobalt at the BAP and arsenic at the FAP may be associated with variable redox conditions in groundwater mobilizing the metals from native soil (both discussed in 2020 GMCAR). Ongoing semi-annual CCR monitoring events to date have included sampling for several redox-sensitive constituents at FAP and BAP downgradient wells. Results of the redox analyses will be evaluated in the second half of 2021 to help inform the remedy selection for the FAP and BAP.

- *Installation of Monitoring Wells and Potential Extraction Wells at the BAP*. To evaluate the nature and extent of spatially heterogenous cobalt concentrations at the BAP, Wood installed four monitoring wells downgradient of the BAP in April and May of 2021. During this time Wood also installed five 6-inch diameter wells at the south toe of the dam and adjacent to the eastern seepage intercept system of the BAP. These larger diameter wells may serve as extraction wells to enhance the BAP seepage collection systems or as part of the selected remedy, if supported by aquifer testing data (discussed in Section 2). Well installation and associated activities will be summarized in a Well Completion Report for inclusion as an appendix to the 2021 GMCAR.

- *Abandonment and Replacement of Select Site Well*s. Based on recent investigations and inspections indicating issues such as potential for cross-contamination between hydrogeologic units, nine piezometers/wells across the Site were identified for replacement. In May 2021 Wood abandoned and replaced monitoring and piezometer wells W-123, W-126, F-111, F-91, and F-91 around the FAP, and CR-1 near the SEDI. FAP extraction wells Geronimo A and Geronimo B were abandoned and replaced with a single well. The justifications for the abandonments, in addition to abandonment and replacement activities will be summarized in a Technical Memorandum (Tech Memo) to be included as an appendix to the 2021 GMCAR.

2. Future Planned Activities

APS plans to perform the following activities in support of remedy selection during the second half of 2021 (and in upcoming years, as noted):

- *Aquifer Testing at the BAP*. To support assessment of the 6-inch diameter wells installed May of 2021 to serve as extraction wells, aquifer testing and data evaluation at the BAP are currently underway. Aquifer test programs were developed for one monitoring well and four of the potential extraction wells installed to date. Further aquifer testing will be conducted at monitoring wells scheduled for installation in the second half of 2021 (see below). Results and data of all aquifer testing will be assessed and summarized as part of a Well Completion Report to be included as an appendix to the 2021 GMCAR.

- *Installation of Monitoring and Background Wells at the BAP*. To further evaluate the localized migration pathways downgradient of the BAP, four more monitoring wells are planned for installation near the southeastern corner of the BAP. Additionally, the installation of a monitoring well screened in the Moqui is planned as a potential background well for the BAP to evaluate background cobalt concentrations for the groundwater in the Moqui. Installation activities are anticipated to take place in the second half of 2021 and will be summarized in a Well Completion Report to be included as an appendix to the 2021 GMCAR.
- *BAP Bench Scale Geochemical Testing.* As part of the installation of new wells at the BAP in April-May 2021, sediment samples were taken at select locations and depth intervals during drilling. These solid matrix samples, along with additional sediment and groundwater samples to be collected during planned well installation activities, will be assessed utilizing a series of laboratory tests to evaluate the effectiveness of potential treatment technologies to treat elevated cobalt concentrations in the BAP area. The results of the laboratory testing will also guide any interim in-situ testing at the BAP. These results and any recommendations based thereupon will be summarized in a Tech Memo for inclusion the 2022 GMCAR (the results of testing will likely not be documented prior to preparation of the 2021 GMCAR).
- *Lithium Intrawell Analysis for the BAP*. In June 2019 an Alternative Source Demonstration (ASD) was prepared for lithium groundwater protection standard (GWPS) exceedances at wells downgradient of the BAP. Several lines of evidence in the ASD declared natural variation in the aquifer to be the cause of the

exceedances. As such, an intrawell statistical comparison was recommended as an alternative to the currently utilized interwell comparison for ongoing evaluation and is planned as an assessment supporting the ASD for the second half of 2021. The intrawell analyses will be summarized in a Tech Memo for inclusion as an appendix to the 2021 GMCAR.

- *Integration of New Extraction Wells into Seepage Collection System Operations at the FAP*. As part of interim response measures to address groundwater impacts at the FAP, the extraction wells installed in December 2020 will be incorporated into the existing Geronimo Seepage Collection System. Aquifer testing conducted January of 2021 support sustainable pumping rates between 1.5 and 5 gallons per minute. Completed activities associated with incorporating the extraction wells into the seepage collection system will be documented in the 2021 GMCAR.
- *Public Meeting*. Once pre-design studies have provided enough information to progress remedy selection activities (likely in 2022), APS will conduct a public meeting with interested and affected parties at least 30 days prior to selection of remedies for the FAP and the BAP pursuant to 40 CFR §257.96(e).
- *Remedy Selection Reports for the FAP and the BAP*. After a public meeting to discuss the results of the corrective measures assessment occurs, APS will prepare a remedy selection report for each CCR unit which will document how the selected remedy will meet the requirements of 40 CFR §257.97(b).

Respectfully submitted,
Wood Environment & Infrastructure Solutions, Inc.

Mari Wuollet
Junior Hydrogeologist
mari.wuollet@woodplc.com

Reviewed by:

Maren Henley, PE
Project Manager
maren.henley@woodplc.com

Appendix Q

SEDI Pond Closure by Removal and Construction Certification (AECOM)

AECOM

AECOM
7720 North 16th Street
Phoenix, AZ 85020
aecom.com

October 13, 2021

Byron Conrad, PE
Arizona Public Service
400 North 5th Street
Mail Station 9219
Phoenix, AZ 85004

Subject: Sedi Pond Closure by Removal and Construction Certification

Dear Mr. Conrad:

Coal Combustion Residual (CCR) removal and construction activities associated with closing the Sedi Pond CCR unit started on May 3, 2021 and were completed on October 8, 2021. These activities were completed consistent with the amended closure plan dated November 4, 2020, with the exception of the completion date. The amended closure plan for the Sedi Pond estimated a completion of closure construction activities prior to October 2021. The actual completion of construction was October 8, 2021.

A summary of Closure by Removal (CbR) construction activities is provided below:

1. Decontamination of all the existing concrete structures (divider wall, spillway, inlet structure, and outlet structure) within or associated with the CCR unit. The concrete structures were decontaminated by removing any CCR material that was adhered to the walls or footings of the structures. Upon completing decontamination activities, the concrete structures were visually inspected to verify all CCR material had been removed.
2. Demolishing and removing the decontaminated concrete structures and old pumphouse associated with the CCR unit. The concrete structures were demolished and hauled to the on-site inert landfill for disposal. The old pumphouse was cleared of any asbestos and lead paint, then was demolished for disposal or recycling.
3. Excavating and removing any remaining CCR sediments within the Sedi Pond footprint. CCR removal within the excavation was accomplished by removal of any underlying material that, by visual inspection, appeared possibly to be impacted by CCR or non-native. The CCR material and impacted soil were removed and transported to the Bottom Ash Monofill.
4. Backfilling and compacting the excavation with clean soil to fill the basin and grading the final surface to drain into existing drainage facilities.

This limited certification for closing the Sedi Pond CCR unit addresses only the removal of CCR from the CCR unit. This limited certification does not address groundwater quality monitoring concentrations relative to groundwater quality protection standards.

I, David E. Mickanen, being a Registered Professional Engineer in good standing in the State of Arizona, do hereby certify, to the best of my knowledge, information, and belief that the information contained in this certification has been prepared in accordance with the accepted practice of engineering. I certify, for the removal of CCR from the above-referenced CCR Unit, that the work was completed in accordance with the Closure Plan (CH_ClosPlan_004_20201104_Sedi Pond) and the requirements of 40 CFR § 257.102

AECOM

If you require additional information, please do not hesitate to contact me at (602) 648-2310.

Yours sincerely,

AECOM Technical Services, Inc

David E. Mickanen, PE, REM
Principal Civil Engineer
AECOM

Registered Professional Engineer (Civil)
CERTIFICATE NO.
29781
DAVID E.
MICKANEN
Date Signed 10-13-21
ARIZONA U.S.A.
EXPIRES: 12-31-22

cc: Sandy Gourlay

Appendix R

Annual Progress Report Documenting the Continued Lack of Alternative Capacity and Progress Toward Closure of the FAP and BAP (APS)

Richard Nicosia
Plant Manager
Cholla Power Plant

Tel. 928-288-1176
Fax 928-288-1399
e-mail: Richard.Nicosia@aps.com

4801 Cholla Lake Road
Mail Station 4451
Joseph City, Arizona 86032

November 29, 2021

Subject: §257.103(f)(2) ANNUAL PROGRESS REPORT DOCUMENTING THE CONTINUED LACK OF ALTERNATIVE CAPACITY AND PROGRESS TOWARDS CLOSURE OF THE FAP AND BAP
Cholla Power Plant – Navajo County, Arizona

In accordance with the requirement for an annual progress report required by 40 CFR §257.103(f)(2)(x), this report documents the continued lack of alternative disposal capacity for coal combustion residuals (CCR) at the Arizona Public Service Company (APS) Cholla Power Plant. This report also describes progress made towards closure of two CCR units that APS has requested a site-specific alternative deadline to initiate closure for: the Fly Ash Pond (FAP) and the Bottom Ash Pond (BAP). Our demonstration prepared pursuant to §257.103(f)(2) was submitted to the United States Environmental Protection Agency (US EPA) on November 30, 2020 and is currently under completeness review.

Background. The 420-acre FAP and 80-acre BAP are unlined surface impoundments that receive CCR from coal-fired boiler operations at the Cholla Power Plant. In accordance with the requirements of federal CCR regulations, both the FAP and BAP must cease receiving CCR in the near term and "close for cause." Since APS plans to cease coal-fired boiler operations at Cholla Power Plant no later than April 2025 and close the FAP and BAP by October 17, 2028, APS seeks to continue receiving CCR and non-CCR wastestreams in the FAP and BAP under the alternative closure provision of §257.103(f)(2) through June 2025 to accommodate decommissioning.

Lack of Alternative Disposal Capacity. There have been no changes in alternative disposal capacity since submittal of our §257.103(f)(2) demonstration. If the FAP and BAP were not available to receive CCR, coal-fired electrical generation operations at Cholla Power Plant would need to shut down because:

- The FAP and BAP are the only existing CCR units located on-site that are sized and designed appropriately to receive CCR and non-CCR wastestreams generated by operation of Cholla Power Plant.
- Management of CCR and non-CCR wastestreams in wet temporary storage on-site is not technically feasible, let alone safe or adequately protective of the environment, given the projected volumes and the corresponding number of temporary tanks that would be required to contain the wastestreams.
- It is not technically feasible to send wet CCR off-site for disposal – there is no appropriate off-site treatment or disposal facility nearby to pipe the CCR to and trucking/conveying by rail significant quantities of liquids to an appropriate waste processing facility or landfill is unlikely to be successful. Off-site transport of this liquid CCR risks creating significant threats to public safety; these risks far out-weigh the benefit of off-site disposal of CCR.

Progress Towards Closure. Attachment D(2) of our §257.103(f)(2) demonstration identified multiple tasks required to advance closure of the FAP and BAP by October 17, 2028. An updated version of Attachment D(2) is included with this report. Progress on these tasks is as follows:

- Minimize discharge to the FAP – The only liquid discharges to the FAP at present are flue gas desulfurization (FGD) solids and small amounts of slurried non-saleable fly ash generated from operation of Cholla Power Plant Units 1 and 3. Unit 4 was permanently shut down in December 2020 which resulted in a reduction in the amount of FGD solids generated and thus discharged to the FAP in 2021. Free water level monitoring in the FAP is being conducted to track progress in dewatering the unit. Based on the results of monthly monitoring, the level of the FAP has declined by 2.1 feet thus far in 2021 which is generally consistent with annual declines over the last three years. Pond level monitoring data trends suggest that recent decreases in free water levels are largely driven by evaporation in warmer months of the year.
- Stockpile bridge lift material at the FAP – In late 2020, APS began consolidating ash excavated from a former ash disposal unit (closed prior to promulgation of the CCR Rule) to the FAP footprint to store and use as future bridge lift material during closure of the FAP. As of November 2021, approximately 700,000 cubic yards of material had been moved to the FAP footprint.
- Land Acquisition for Closure – Decommissioning and closure planning supporting the shutdown of Cholla Power Plant has necessitated a review of property ownership in the vicinity of the facility. Work supporting this review is the first step in the land acquisition process for closure and was ongoing as of the date of this progress report.

Additional activities conducted to support FAP and BAP closure include:

- FAP Dewatering – Given the results of pond level monitoring data described above, APS is developing a strategy to promote evaporation of free water in the FAP. A pilot test involving use of mechanically enhanced evaporation equipment is scheduled for 2022.
- Seepage Collection System Improvements – In late 2020 and 2021, a series of new groundwater extraction wells were installed and tested downgradient of the FAP and BAP to enhance existing seepage collection system operations and promote pond dewatering. Based on test results, APS is currently progressing detailed design of instrumentation and controls to upgrade the FAP seepage collection system. These upgrades are currently scheduled to be installed in early 2022.

If you have any questions regarding this progress report, please contact Natalie Chrisman Lazarr at 602.316.1324 or via email at natalie.chrisman@aps.com.

Sincerely,

Richard Nicosia
Plant Manager - Cholla Power Plant

Enclosure: Attachment D(2) – Updated for 2021

ATTACHMENT D(2) – 2021 Updates in Green Text

CHOLLA POWER PLANT
CLOSURE SCHEDULE NARRATIVE
40 CFR 257.103(f)(2)(v)(D)

Arizona Public Service Company (APS) has been planning for the closure of the Fly Ash Pond (FAP) and Bottom Ash Pond (BAP) for some time. Figures D-1 (FAP Closure Activities) and D-2 (BAP Closure Activities) present Gantt charts depicting the tasks that must be completed as part of pond closure with the corresponding planned schedule for those tasks. This narrative supplements the Closure Plans presented as Attachment D(1) and presents supporting detail regarding the tasks and schedule identified in each Gantt chart.

1. Closure of the Fly Ash Pond

1.1 Pre-Construction

1.1.1 Minimize Discharge to the FAP

Continue implementing measures that limit discharges to the FAP; this activity has been ongoing since early 2016 and has included sale of fly ash to a local cement manufacturer, shut down of Unit 2 and Unit 4, diversion of water from seepage collection systems to general water (this flow previously discharged into the FAP), and various plant operational modifications. This activity will continue thru plant shut down.

1.1.2 Stockpile Closed Ash Pond 1 CCR Material for Bridge Lift

Move approximately 700,000 cubic yards (cy) of ash from closed Ash Pond 1 to a stockpile area located within the Fly Ash Pond footprint and store for utilization as bridge lift material for closure activities. This activity should require approximately 15 months depending upon contractor productivity. Work began during Third Quarter 2020 and was almost complete as of November 2021.

1.1.3 Stockpile Bottom Ash for Bridge Lift

Relocate approximately 600,000 cy of bottom ash from the Bottom Ash Monofill (BAM) to a stockpile area located within the FAP footprint and store for utilization as bridge lift material for closure activities. This work can start approximately one year prior to cessation of discharge of CCR material.

1.1.4 Land Acquisition for Closure (e.g. Diversion Channels)

No later than 3 years prior to starting closure activities, acquire land adjacent to the FAP for soil borrow areas and construction of diversion channels.

1.1.5 Run-On Diversions and Coffer (Push Up) Dams

Upstream in the drainage channels, build small retention coffer dams to capture precipitation run on. This work should start up to two years prior to cessation of discharge of CCR material.

1.1.6 Excavate Abutment Diversion Channels and Stockpile Select Soil

Start the excavation of abutment diversion channels approximately one year prior to the cessation of discharge of CCR material (as early as Second Quarter 2024).

1.1.7 Fly Ash Pond Dewatering

Design and construction of two mechanically enhanced evaporation measures for increasing the rate of evaporation and accelerating drawdown of free water within the FAP. The two enhanced evaporation measures consist of a sprinkler irrigation system and multiple floating blower fans. Planning began in 2021 and equipment will be installed as early as Second Quarter 2022.

1.2 Engineering

1.2.1 Design Engineering

Start design engineering activities in 2023; these activities will include approximately 21 months of design engineering work. The objective of these activities is to produce design drawings and specifications that will be used to procure a contractor for FAP closure activities.

1.2.2 Geotechnical and Borrow Investigations

Start the geotechnical soils evaluation after acquisition of lands adjacent to abutments. Identify usable soils for borrow materials. If possible, build roads onto the FAP beach for access of light-weight geotechnical test equipment.

1.2.3 Bridge Lift Test Fill

Start construction test fills over the CCR material exposed in the pond next to the dam embankment. Test fills to measure internal water pressures generated by bridge lift loading. Estimate techniques and materials needed to construct full-scale soil fill cap.

1.3 Permits

1.3.1 Arizona Department of Water Resources (ADWR) Dam Modifications

Anticipate that the permitting process with the ADWR Dam Safety Bureau to modify a jurisdictional high hazard dam will require nine months. Consult early with ADWR to identify if additional time is needed.

1.3.2 Arizona Department of Environmental Quality (ADEQ) or US Environmental Protection Agency (EPA) CCR Rule Closure Plan Approval

Anticipate up to six months will be required to achieve approval of proposed Closure Plan from ADEQ or US EPA if ADEQ does not have primacy.

1.4 Procurement

1.4.1 Preliminary Construction Contracts

Anticipation of six months duration for procurement of the primary construction contract (includes bid event and award of contract).

1.5 Final Boiler Closures

1.5.1 Plant Final Boiler Closures

Cease generation using coal no later than April 2025.

1.6 Construction

1.6.1 Gravity Drain Down CCR Pile

Allow up to 18 months to gravity drain the delta of CCR material adjacent to the dam. This activity may include pushing out of bridge lift material to help squeeze pore water from the CCR material. This task can begin following cessation of discharge of CCR material to the FAP.

1.6.2 Complete Diversion Channel Rock Excavations

Complete diversion channels; rock excavations started in pre-construction. Continue to segregate the selected materials for construction borrow material (activities started Second Quarter 2025).

1.6.3 Fill Remaining Water Ponds with Rockfill from Diversion Channel Cuts

Backfill remaining free water at the toe of CCR with rock fill material to entrap remaining free water this activity should coincide with the excavation of the diversion channels. Utilize rock from diversion excavation.

1.6.4 Build Rockfill Toe Buttress to Stabilize Upstream Toe of CCR Pile

Build the toe buttress with larger rock to stabilize the CCR material. This activity will coincide with the rockfill to trap the remaining free water. Can start Fourth Quarter of 2025.

1.6.5 Excavate Upstream Diversion Channels and Coffer Dams

Finish excavating upstream diversions to connect with the diversion channels around the abutments. Work starts Third Quarter of 2025 and requires 21 months.

1.6.6 Build Stormwater Detention Basins and Outlet Works

Construct stormwater detention basins which will outfall into culverts that convey water under Interstate 40.

1.6.7 Build the South and North Half Bridge Lifts and Construct Evapotranspiration (ET) Cap

Construct the bridge lifts and place the ET cap material over the supporting bridge lift material as area comes available. These construction activities will be split along the north and south halves of the pond, advancing the cap materials from southwest to northeast to squeeze pore water out of the CCR pile. ET cap placement will follow the bridge lift construction activities as areas become available. Work starts Second Quarter 2026.

1.6.8 Vegetate ET Cap

Seed the ET cap as sections are completed. Finish September or October 2028.

2. Closure of the Bottom Ash Pond

2.1 Pre-Construction

2.1.1 Land Acquisition for Closure (e.g. Diversion Channels)

No later than 3 years prior to starting closure activities, acquire land adjacent to the BAP for soil borrow areas and construction of diversion channels.

2.1.2 Stop Mining of Bottom Ash from BAP (to Bottom Ash Monofill)

Suspend removal of bottom ash from the BAP with placement of the ash in the BAM so that the material can be used in closure activities.

2.1.3 Allow Sluice of Bottom Ash into Decant Area to fill with BA

Allow ash from the plant to fill in the decant west and east cells in the BAP.

2.2 Engineering

2.2.1 Design Engineering

Design engineering activities starting in 2023 approximately 21 months of design engineering work.

2.2.2 Geotechnical and Borrow Investigations

Start the geotechnical soils evaluation after acquisition of lands adjacent to abutments. Identify usable soils for borrow materials. Build roads onto bottom ash beach areas to access light-weight geotechnical test equipment.

2.3 Permits

2.3.1 ADWR Dam Modifications

Anticipate that the permitting process with the ADWR Dam Safety Bureau to modify a jurisdictional high hazard dam will require nine months. Consult early with ADWR to identify if additional time is needed.

2.3.2 ADEQ or US EPA CCR Rule Closure Plan Approval

Anticipate up to six months will be required to achieve approval of proposed Closure Plan from ADEQ or US EPA if ADEQ does not have primacy.

2.4 Procurement

2.4.1 Preliminary Construction Contracts

Anticipation of six months duration for procurement of the primary construction contract (includes bid event and award of contract).

2.5 Final Boiler Closures

2.5.1 Plant Final Boiler Closures

Cease generation using coal no later than April 2025.

2.6 Construction Activities

2.6.1 Transfer Remaining Decant Water to General Sump for Use during Decommissioning

Siphon or pump extensively sending all free water possible to the plant for use in decommissioning activities.

2.6.2 Gravity Drain-Down CCR Pile

Allow up to 18 months to gravity drain the delta of CCR material. Activities may include the pushing out of bridge lift material to help squeeze pore water from the CCR material. Starts with the cessation of discharge of CCR material.

2.6.3 Grade Pond Using Drained Bottom Ash

Grade cut and fill utilizing drained bottom ash material to achieve the final surface configuration. This activity should start as soon as possible with the gravity drain down of the bottom ash material.

2.6.4 Excavate Upstream Diversion Channels and Retention Pond

Excavate upstream diversion channels to connect with the diversion channels around the abutments. Work will start First Quarter of 2026 and continue for 15 months.

2.6.5 Build ET Cap Using Stockpiled Soil from Diversion Channel Cuts

ET cap placement will follow the grade cut and fill construction activities as areas become available. Activities will start in Third Quarter of 2027.

2.6.6 Vegetate ET Cap

Seed the ET cap as sections are completed. Finish September or October 2028.

Figure D-1

Planned Schedule for FAP Closure Activities

Last Updated: 11.23.2021 (2021 Updates in Green Text)

NOTES:
1. Does not describe any removal of free water to Evaporation Pond or unlined basins
2. Does not describe any measures for enhancing drain down or pore pressure relief within CCR pile.
3. For cap construction, a south/north distinction has been made to allow an extra year for drain down of the more fine-grained northern half.

TASK	START	END	Duration
Pre-Construction			
Minimize discharge to FAP	20Q1	25Q2	63 months
Stockpile 700,000 cy existing fly ash for bridge lift	20Q3	22Q1	18 months
Stockpile 600,000 cy of BAM BA for bridge lift	24Q1	25Q1	12 months
Land acquisition for closure (e.g. diversion channels)	22Q1	23Q2	15 months
Run-on diversions and coffer (push up) dams	23Q2	24Q2	12 months
Excavate abutment diversion channel, stockpile select soils	24Q2	25Q2	12 months
FAP dewatering	22Q2	25Q2	36 months
Engineering			
Design engineering (SG2)	23Q1	24Q4	21 months
Geotechnical and borrow investigations	23Q2	23Q4	6 months
Bridge lift test fill	24Q2	24Q4	6 months
Permits			
ADWR dam modifications	23Q4	24Q3	9 months
ADEQ/USEPA CCR closure plan approval	24Q2	24Q4	6 months
Procurement			
Primary construction contract(s)	24Q2	24Q4	6 months
Final Boiler Closures			
Plant final boiler closures	25Q2	25Q2	0 months
Construction			
Gravity drain-down CCR pile	25Q2	26Q4	18 months
Complete diversion channel rock excavations	25Q2	26Q4	18 months
Fill remaining water ponds with rockfill from diversion channel cuts	25Q2	25Q4	6 months
Build rockfill toe buttress to stabilize upstream toe of CCR pile	25Q4	26Q2	6 months
Excavate upstream diversion channels and coffer dams	25Q3	27Q2	21 months
Build stormwater detention basins and outlet works	27Q2	28Q2	12 months
Build south half of bridge lift using stockpiled fly ash	26Q2	27Q1	9 months
Build south half of ET Cap using stockpiled soil from diversion cuts	27Q2	27Q4	6 months
Build north half of bridge lift using stockpiled fly ash	27Q1	27Q4	9 months
Build north half of ET Cap using stockpiled soil from diversion channel cuts	28Q1	28Q3	6 months
Vegetate ET cap	28Q3	28Q4	3 months

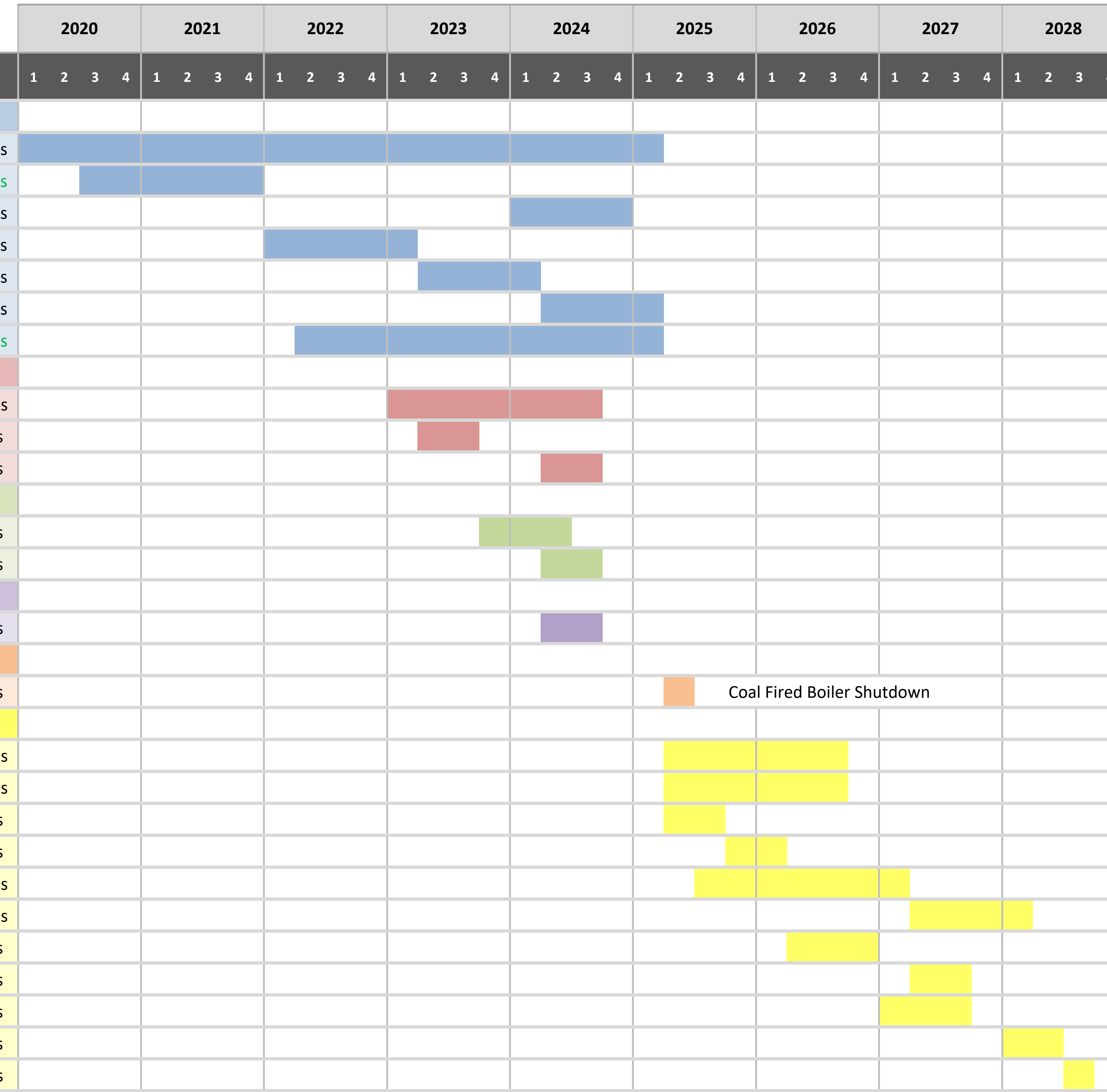


Figure D-2

Planned Schedule for BAP Closure Activities

Last Updated: 04.16.2020

NOTES:
1. Does not describe any removal of free water to Evaporation Pond or unlined basins.
2. Does not describe any measures for enhancing drain down or pore pressure relief within CCR pile.

TASK	START	END	Duration	
Pre-Construction				
Land acquisition for closure (e.g. diversion channels)	21Q1	23Q2	27 months	
Stop mining of bottom ash from BAP (to Bottom Ash Monofill)	23Q1	25Q2	27 months	
Allow sluice of bottom ash into decant area to fill with BA	23Q1	25Q2	27 months	
Engineering				
Design engineering (SG2)	23Q1	24Q4	21 months	
Geotechnical and borrow investigations	23Q2	24Q1	9 months	
Permits				
ADWR dam modifications	23Q4	24Q3	9 months	
ADEQ/USEPA CCR closure plan approval	24Q2	24Q4	6 months	
Procurement				
Primary construction contract(s)	24Q2	24Q4	6 months	
Final Boiler Closures				
Plant final boiler closures	25Q2	25Q2	0 months	Coal Fired Boiler Shutdown Date
Construction				
Transfer remaining decant water to general sump for use during decommissioning	25Q2	26Q4	18 months	
Gravity drain-down CCR pile	25Q2	26Q4	18 months	
Grade pond using drained bottom ash	26Q4	27Q3	9 months	
Excavate upstream diversion channels and retention pond	26Q1	27Q2	15 months	
Build ET Cap using stockpiled soil from diversion channel cuts	27Q3	28Q1	6 months	
Vegetate ET cap	28Q1	28Q2	3 months	